DRUG AND COSMETIC INDUSTRY

JANUARY 1938

CONTENTS

EDITORIAL	29
NEW AND NON-OFFICIAL	30
GLYCOLS INSPIRE F. D. A. ACTIVITY	32
CAMPANA'S NEW PLANT	34
BUILDING REPEAT BUSINESS	37
RANCIDITY	38
NAIL NOTES	40
KNOWLEDGE OF VITAMINS	41
PRICE FIXING TO DATE	43
THE BENZOATES	46
CONSTRUCTIVE COST REDUCTION	49
TESTED FORMULAS—SUNTAN PRODUCTS	52
DRUG LAW OUTLOOK	55
COSMETICS AT ADOLESCENCE	57
POINT OF SALE	59
F. T. C. AND ADVERTISING	61
MERCHANDISING NEWS	63
PACKAGES OF THE MONTH	66
PACKAGING NOTES	69
NEWS	73
INDUSTRY'S BOOKS	87
PRODUCTION FORUM	89
PERFUMERS' SHELF	103
COMPOUNDERS' CORNER	107
ADVANCING THERAPY	115
READERS' QUESTIONS	122
PURCHASING DEPARTMENT	126

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PUBLIC INTEREST

THE increasing interest of the average individual in matters of health has been manifested for some years past. The greatly increased number of people who are today educated at least in high school if not in college, constantly puts the physician on his mettle when answering the intelligent question of patients or their relatives. While this increase in education has aided greatly in bringing about a state of affairs where the average individual questions processes of government as well as why the rich get richer and the poor get poorer, it is the questioning of matters of health which most concerns this industry.

AS A result of this trend, the ethical branch of drug manufacturing has progressed at a far more rapid rate than the proprietary end. An increasing number of people are able to select their own remedies without pressure from large consumer advertising. These people might talk to their doctor or pharmacist and arrive at the selection of a product which is not advertised to the public at all. Such a trend means that the public is taking an interest in the manufacture of drug products—ethical as well as proprietary.

SUCH an interest on the part of the public means that the public will sooner or later delve into the subject of the food and drug legislation sufficiently deeply to insist that the government have closer control over manufacturers and the products which they market. Surely there seems to be little if any answer to the argument that physicians, pharmacists, plumbers, steamfitters, and electricians are licensed, but drug manufacturers are not.

BEFORE the present year is over, this increased public interest in the products will likely make itself felt in the enactment of new Federal Food and Drugs Act. But if it does not happen this year, it will happen within the next few years. And every year that the matter is delayed, the greater will be the public interest, and the more stringent will be the law.

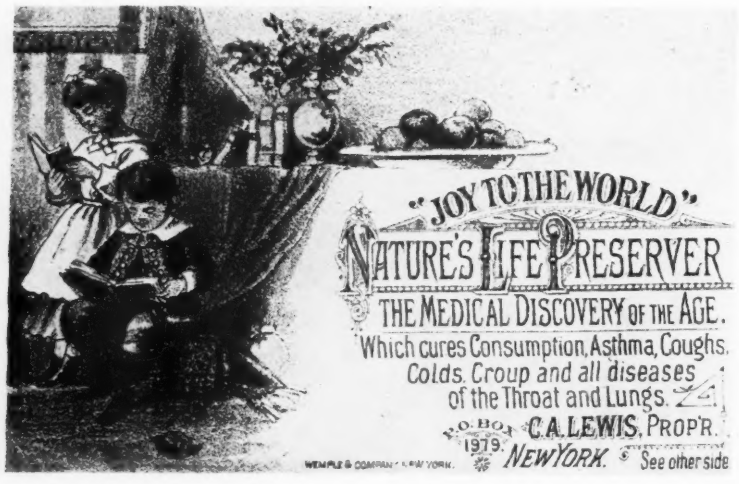
NEW and NON-OFFICIAL

WE HAVE MENTIONED SEVERAL TIMES the increase in the share of the drug business enjoyed by ethical manufacturers. Large manufacturers have been awake to this trend and to the excellent commercial possibilities in ethical companies. As evidence of this recognition on the part of proprietary companies, we saw Wyeth in Philadelphia taken over by American Home Products, and more recently we saw American Ferment and its subsidiaries in Buffalo taken over by Sterling Products. Winthrop has proven to be one of Sterling's large profit builders, and further ethical steps by Sterling were not surprising.

Now we see Vick Chemical Company stepping in the same direction through its acquisition of The Wm. S. Merrell Company, of Cincinnati. Here is an outstandingly successful proprietary manufacturer with a limited line of products all in the same category taking over a house with one thousand products including pharmaceuticals, biologicals, and prescription specialties.

Slowly but surely a fundamental change is taking place in the drug manufacturing business. In the case of the Merrell Company, the oldest pharmaceutical manufacturing house in the country passes into the hands of a company which has been conducting its business in an entirely different way. Even though, as announced, the same officials from top to bottom retain management of the Merrell Company, the minds of Vick executives will to some extent reflected in the operations of Merrell. We are looking forward to more developments of this kind and to greatly increased competition within the ethical medicine field.

Our Family Album


"JOY TO THE WORLD"
NATURE'S LIFE PRESERVER
THE MEDICAL DISCOVERY OF THE AGE.
Which cures Consumption, Asthma, Coughs,
Colds, Croup and all diseases
of the Throat and Lungs.
C.A. LEWIS, PROP'R.
P.O. BOX 1979. NEW YORK.
See other side

Another of those gems used for advertising in the nineteenth century. Think of the progress that has been made in regulation of this industry since the time that this product was offered with the statement, "cures consumption, asthma, coughs, colds, croup and all diseases of the throat and lungs."

Certainly a new Food and Drugs Act which would unduly restrict proprietary manufacturers to the extent that their business would be seriously curtailed, would force these people into the ethical manner of doing business. This is one of the reasons why those interested in the ethical drug field should be cautious in letting the proprietary branch of the industry be kicked around by government officials or legislators.

WE HAVE BEEN QUESTIONED regarding the statement we made in an article last month calling attention to the fact that some people in the industry considered that manufacturers are bound by their own resale contracts. By this we mean that a manufacturer binds wholesalers to a scale of prices at which the wholesalers are allowed to sell to retailers, then the manufacturers cannot themselves sell retailers at prices not specified in the contract.

Naturally enough many manufacturers do not like this angle thought up by the wholesalers, but nevertheless it does sound logical. Certainly, if a manufacturer wants to sell a large retail outlet direct, he can do it if he puts into the wholesaler contract the price which he gives this large retailer for the quantity which the retailer buys. The only trouble with putting this large quantity price in the contract is that the price might be equal to or less than the wholesaler's cost and this would not look nice in print.

Another and perhaps better way out of this problem of the manufacturer is for the manufacturer to make allowances to these direct accounts for services which the large retailers perform. This angle brings up the question of the Robinson-Patman Act, but still it can be done. The problem is not easy to solve, but smart minds might find a way around it, and others might try it through the courts to find out if the contention of the wholesalers is right or wrong.

AND SPEAKING OF THE ROBINSON-PATMAN ACT, the F.T.C. has ruled on one of the many famous cases of cosmetic companies who were charged with violations of the original Federal Trade Commission Act or the Robinson-Patman Act in using demonstrators, p. m.'s, or some of the other promotional methods quite generally in use. The case decided was that of Charles of the Ritz who cleared themselves of discrimination by closing out all accounts which were not furnished with demonstrators. This means that demonstrators are not a violation of the original Federal Trade Commission Act as charged by the F.T.C. In this part of the charge against all the companies using demonstrators, the F.T.C. charged that the employment of demonstrators was unfair to other manufacturers. This charge has now been dismissed. But there is still no decision on whether or not it is unfair to have demonstrators in one store and not in another, and this decision will clarify the Robinson-Patman Act.

But the F.T.C. is very busy with the many types of matters before them and it will take more time before we know the decisions of the Commission on these matters. And after that we shall have to wait another long while before the cases are dragged through the Federal Courts for final adjudication.

THE SAME F.T.C. RECENTLY issued a cease and desist order against Johnson and Johnson, directing the Company "to discontinue unfairly disparaging competitors or their products through use of representations which, directly or indirectly, infer that because such competitors do not extensively advertise their respective products and are not widely known, such competitive products subject the users thereof to the dangers of infection and are not safe and in a sanitary condition when opened for use."

Johnson & Johnson's statement on this cease and desist order is interesting because following their vigorous advertising campaign against unsafe, improperly sterilized, dangerous surgical dressings, there followed a vigorous campaign against such dressings by the Food and Drug Administration. This campaign is still in progress. Proceedings were also instituted by the F.T.C. itself in this campaign.

The difficulty with Johnson & Johnson's position was that in their advertising they focused attention on products of "unknown make." Johnson & Johnson state that they "intended to expose those many miscellaneous dressings characterized by a high sounding trade-mark but launched and marketed without the name or place of manufacture of the sponsor."

"It subsequently appeared," continues the statement, "that this word "unknown" was capable of including as well, products not extensively advertised. This latter application and interpretation was not intended. Therefore Johnson & Johnson has been willing to stipulate and has stipulated that it will not in the future disparage a product merely on the basis that it is "unknown." Therein lies the significance of the order in question."

THE ONE OUTSTANDING FACT about the Johnson & Johnson squabble with the F.T.C. is that the whole function of advertising is to make a product known and profit thereby. Unknown product are always believed to be open to suspicion in the minds of the public. Now when an advertiser warns against "unknown" products he is unfair. We can see the logic of it, but it is going to make the road for advertisers just so much tougher.

COSMETICS MIGHT GAIN the serious attention of the American Pharmaceutical Association. After all, the pharmacists made the first cosmetics used in this country, and the Association had had a special cosmetic committee for the last ten years. The only trouble is that the industry has advanced so far with the aid of the Association, that it is hard to find a reason for professional pharmacy coming back into the field.

THE SHORTAGE OF EPHEDRIN gives some idea of how dependent this industry can become upon a raw material that is comparatively young. Ephedrin has not been known to this industry much over ten years, and its widespread use is much more recent. However, a shortage of supplies causes untold grief to manufacturers of products containing it as well as to pharmacists who must fill prescriptions containing it. Many will probably wonder what we ever did before we had ephedrin. But for that matter what did we ever do before we had aspirin or many of the other many important medicinal agents of today.

GLYCOLS INSPIRE

EVIDENTLY feeling that they were on safe ground due to the marked resentment against the "Elixir of Sulfanilamide," the Food and Drug Administration has ruthlessly swung the club against the heads of all those who have in any way used the solvent of the elixir, diethylene glycol, and its derivatives.

Apparently having obtained from the maker of diethylene glycol and its derivatives, the complete list of buyers of these products, the F. D. A. immediately set out to visit all these buyers and learn how they used the products and to whom they sold them or products containing them. Naturally enough, a diethylene glycol derivative being used in flavors for the past ten or twelve years, the essential oil houses were visited by inspectors.

The attitude of the F. D. A. in this matter is extremely interesting because it gives a rare insight into the manner in which the officials work when they believe that they have public opinion behind them. They bluffed, intimidated, and used all the resources that they could think of to force out of these houses information to which they are not entitled. If a house refused to give up its list of customers after two or more different inspectors had tried to wheedle the information out of a house, a U. S. Marshall appeared with a subpoena to inspect the records. Finally when they had bluffed the houses sufficiently to get the lists of customers, the inspectors visited the customers wherever they were located, in many instances telling the customers that the flavor house from which they were buying had been shipping them poison.

They bluffed their way into the plants of these customers, taking samples of anything they desired, in many instances sealing the original package after the sample had been taken. In some instances, the customer was told that he could order more of the product and keep on using it until he was told to stop. This statement by inspectors was believed to be only a means of tricking the customer into receiving additional shipments so that the F. D. A. could bring more libels against the shippers of the products in question and therefore build up its record of seizures and libels to an impressive total.

When the proposition was made to Enforcement Chief Campbell that the flavor houses be called together in order to reach an agreement to stop completely shipment of products containing the solvent and to recall immediately all outstanding lots of products containing the solvent, the Chief declaimed that he had any right to lessen his activities because of any such agreement. Therefore, despite the fact that the F. D. A. could accomplish over night, what it would take his entire force of inspectors many days and weeks to accomplish, Mr. Campbell chose the difficult way.

The Food and Drug Administration has no right to stop the sale of these products except insofar as they might be poisonous when used in foods. There is as yet no definite evidence that these products have any cumulative toxic effect, and if they have no cumulative effect it is quite certain that they are harmless in the infinitesimal amounts in which they would be present in foods containing the flavors in which they are used.

Naturally enough the F. D. A. must proceed upon the assumption that the products are harmful unless evidence to the contrary can be produced. And surely the Administration is right in assuming that the manufacturers who use products of this nature should bear the burden of proving that these products are harmless.

There is no argument in the industry that these products should be continued in use unless they are proven harmless. The resentment against the F. D. A. is the methods which they used and the unreasonable steps which they took against firms who always have been anxious to cooperate to the fullest extent in the enforcement of the Food and Drugs Act. The fact of the matter is that the F. D. A. has lost many friends in the industry through their tactics. From these people whom they

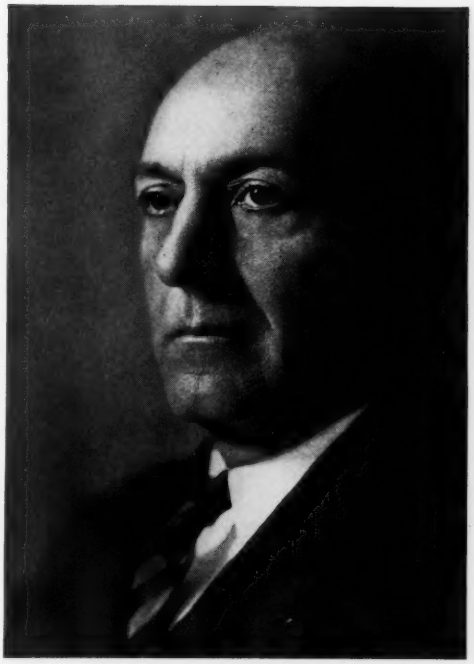
F.D.A. ACTIVITY

have intimitated and bluffed, they will get practically no cooperation in the future.

The attitude of the Food and Drug Administration in this matter is easy to explain when it is realized that the officials were subjected to terrific abuse by certain people because they did not catch the "Ginger Jake" until a great many people had been injured or killed. Officials of the Food and Drug Administration are probably badly frightened lest the same people come after them concerning the "Elixir of Sulfanilamide" tragedy, and they are going to build up such a record as to prove that no people handling this material were favored in any way. They are undoubtedly afraid that if they try to cooperate in a friendly way with any firm using diethylene glycol or any of its derivatives, they will be accused of favoritism or collusion. Therefore they are out to get as many libels as possible and prosecute everyone in sight no matter who they may be.

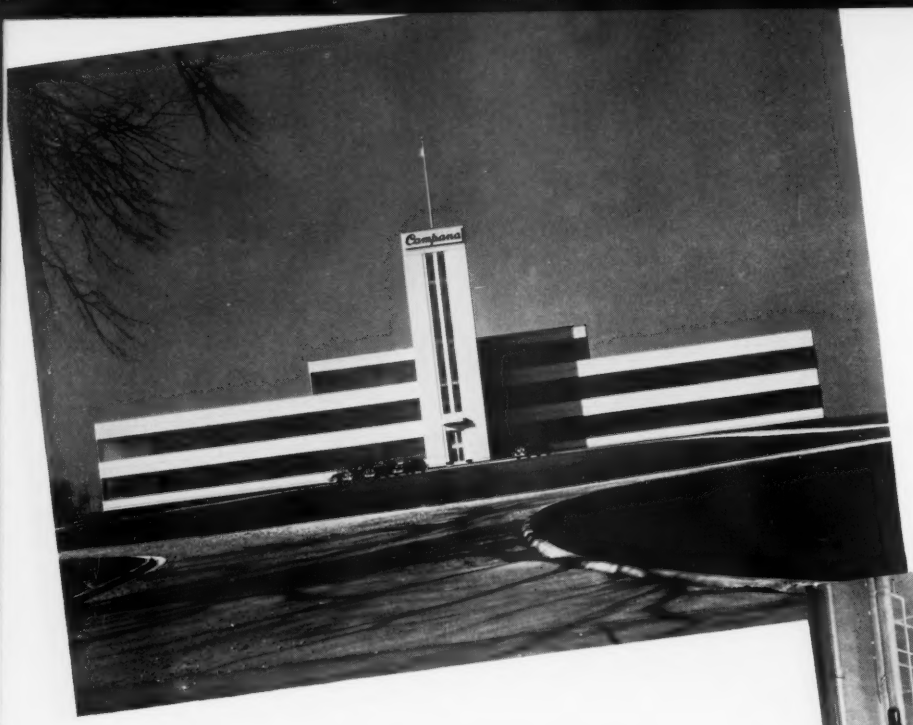
The other thing that is probably prompting the Food and Drug Administration in its aggessive conduct of its problem is the fact that a new Federal Food and Drugs Act is pending before Congress. The officials have been demanding a more stringent bill and here is a chance to work up some very conclusive evidence to present as an argument for a much stronger bill. Further, in the discussion regarding the bill there has been some talk of taking this work away from the Department of Agriculture and giving it to another government department. This must be stopped by the Food and Drug Administration if it is at all possible, and vigorous action in this matter is one of the ways to stop it.

Then there is before Congress the question of whether the Food and Drug Administration or the Federal Trade Commission should have control of advertising under a new Food and Drugs Act. The Federal Trade Commission is getting plenty of publicity in its increased activity on advertising going so far as to indulge in what one Federal judge called "trivial niceties." The Food and Drug Administration must seize upon everything that they can to show that they are also extremely active in their duties in an effort to prove that this additional power should come to them.



ENFORCEMENT CHIEF CAMPBELL

So the industries regulated under the Food and Drugs Act must bear the brunt of this effort on the part of the Food and Drug Administration to prove how righteous and faithful to their duties they are. And also the industry must bear the brunt of the aggressive and bureaucratic law enforcement as two government departments struggle for more power. It is a sad commentary on our form of government, which we all believe is the best, but what can we do about it?



CAMPANA'S NEW PLANT

At top of page is a view of the main building. Directly above is the batch weighing room. To the left is the mixing tank equipment with portable agitators mounted on an automatically controlled turntable which brings the tank into position under the supply scales. At bottom of page are storage tanks for finished products.

CAMPANA in its first major expansion decided to locate its plant out in the country and to create a sanitary building on simple modernistic lines. The structure is built almost entirely of glass brick. The building is air conditioned and contains no outside windows. Light penetrates glass brick which keeps out the heat in summer and in winter keeps out the cold.

The three story structure was designed for gravity flow. All processing operations begin on the third floor and flow downward.

In the center section of the third floor all processing begins. Eight pre-mix glass-lined steel tanks, mounted on a turntable, rotate so that each is brought into position under various charging units.

Here the elements of human error and guesswork are entirely eliminated. If the operator has a charging station in which liquid is added, for example, the turntable rotates until a pre-mix tank is brought under and automatically emptied. The turntable stops and the liquid drains by gravity from an overhead supply tank through an electrically-operated solenoid valve to a scale tank.

At upper right is the filling end of the bottling line. In center view is the cartoning end of an automatic bottling line. At lower left is an automatic case sealer with chute delivery through the floor.

This tank is mounted on a scale equipped with a photo-electric eye. When the proper weight of ingredient is in the scale tank the photo-electric eye is intercepted by an indicator arm and the solenoid valve from the supply tank automatically shuts off. Then the solenoid valve at the base of the scale tank opens and the ingredient drops into the mix tank.

This is the same principle used at all stations where liquid ingredients are added, and practically the same where dry or powdered ingredients are added, except that in the latter case they use an electric vibrator conveyor which starts and stops automatically by photo-electric eye control rather than solenoid valves.

The turntable cannot rotate past a charging station nor can the charging start unless the turntable has properly emptied the tank underneath, nor can the turntable remove the tank from charging position unless it has received its proper quantity or weight of ingredients. All this is accomplished by a system of electrical interlocking and controlled by push-button panels equipped with electric relays.

The control factor, while not eliminating the number of employes ordinarily involved, makes it impossible to mix ingredients incorrectly or to weigh inaccurately any one ingredient, thus assuring a final product which is standard and uniform.

The processing department has a controlled temperature of 70 degrees Fahrenheit the year round. Glass block, used to gain more light, assists in this temperature control, and the vacuum-type blocks make it possible to maintain a 10-degree variance of temperature in adjoining rooms, where the block also provides additional natural light, the translucent walls carrying light from room to room.

The air-conditioning equipment for the processing rooms takes care of ventilation in the department where some alcohol is handled and completely exhausts the air six times an hour. Processing equipment is electrically interlocked with the ventilating system so that in case something happens to the ventilating machinery, all processing automatically stops. Further safeguards include vapor-tight and explosion-proof electrical fixtures, curbs, vent lines and bellows type connections.

Walls of the machine-line room where packaging operations are housed, like the processing departments, are of glass block. Floods of natural but diffused light thus are made possible, even though some of the operations are considerably removed from exterior walls.

The machine-line room is kept under a slight static air pressure so that opening of doors or conveyor and elevator vents into the room will not permit air to come in, but rather will cause a passage of air outward. Thus, any dust in the loading, warehouse or other departments cannot enter.

Space forbids more than a brief consideration of all the innovations in Campana, but specific mention must be made of the visitors' gallery, running the length of two floors; the glass-block divisioned chemical laboratory, with its air-conditioned viscosity control, microscopic and incubator rooms, and the battery of 12 boilers which are thrown on or off automatically when-

(Continued on page 42)

Upper view is of the interior of the warehouse showing the method employed to load outgoing trucks. Center view is of the loading platform. View at left shows the interior of the control laboratory.

BUILDING REPEAT BUSINESS

"ENDOCREME," the first hormone cream to be successfully marketed as a specialty, opens the year with a new merchandising drive for new and repeat business. Introduced in May, 1937, a new broadside to retailers claims that it "is the six months' wonder of the beauty world." "By July, we were listing nearly 100 top stores. By December, the number of outlets had, without the aid of a sales force, reached 755. Some stores . . . are now selling more than $500 per month, at $3.50 a jar." The same broadside also lists the sales records of 17 department stores, whose toilet goods departments have sold from 170 dozen jars to 33 dozen jars, purchases of $7,140 to $1,386, since "Endocreme" opened in their departments.

In addition to shouting about past performances, with considerable justification cosmetic merchandisers agree, "Endocreme" is also announcing plans for the new year, which include more advertising (Vogue, Harper's Bazaar and Woman's Home Companion with the Jean Abbey broadcasts) and a free-jar offer selling plan.

The selling plan is directed specifically at bringing repeat business into the stores. Briefly, it gives the customer one jar free if she buys five jars in six months or less. It is controlled by registration books, consisting of coupon stubs and tear-out post-cards, to be filled in by the salesgirl and mailed to the company. The customer keeps the book and presents it at the toilet goods counter each time she purchases another jar. Each time the salesgirl fills in the next stub, tears out the postcard, also filled in with the customers name and address. Each time this is forwarded to the company and used for follow-up purposes. When the customer has purchased her fifth jar within six months from the date of first purchase, the retailer presents her with a sixth jar without charge. When the company receives the fifth postcard as a record of the fifth sale, the jar which the retailer gave the customer is replaced without charge.

As Endocreme says, "a jar contains a full 30-day" supply for daily use on face and hands. Users should buy a jar every month—a $3.50 sale, with $1.40 profit, ten or twelve times per year! Our experience has been that the beneficial results . . . while not always pronounced with the use of the first jar, are unmistakable before the second and third jar have been used, resulting in enthusiastic repeat customers. With this national advertising and with this selling plan, Endocreme confidently expects to give each retailer a "75 per cent monthly repeat business."

RANCIDITY

By H. HILFER

RANCIDITY is one term which needs no definition. It always has been the "bogey" of the cosmetic manufacturer and has upset his best laid plans more often than any other single problem. A large amount of work has been done on it but the problem is not, to say the least, completely understood, and therefore, the more difficult to solve. The literature contains a great many contradictions and a large number of phenomena not satisfactorily explained. Before it is possible to find a complete solution to the problems it presents, this work must be done and the proper applications made. As far as the cosmetic manufacturer is concerned, the problem is one which rears its ugly head wherever oils, fats or waxes are used and, therefore, it becomes universal.

It is now generally agreed that rancidity is due to a complex series of oxidations which finally yield odoriferous compounds making the substance rancid. Most of the reactions are not very well understood but the final products have been resolved into aldehydes, acids, carbon dioxide and water, in other words, products of oxidation. The oxidation is divided into two stages, the induction period and the rancid period. The induction period is the time of incipient reaction while the rancid period is the time at which the actual odor appears. The induction period has no visible physical manifestation but there are a number of chemical tests by which it may be recognized.

The primary induction oxidation consists of the formation of peroxides. This reaction occurs wherever there is an unsaturated linkage and may be characterized as follows:

$$C=C + 2O \rightarrow \begin{matrix} O-O \\ | \quad | \\ C-C \end{matrix}$$

The peroxides formed are unstable bodies and when there is a sufficiently high concentration of them under the proper conditions, they proceed to a self oxidation or act as oxidants of other materials to produce the odoriferous aldehydes. The peroxides are always present when rancidity occurs. The concentration before the organoleptic reaction, however, varies with the oil and the conditions to which it is subjected. If a true induction has taken place in a material, no amount of protection thereafter will keep it from proceeding to the final organoleptic stage. I am, therefore, stressing at this point the necessity for the proper examination of raw materials to rule out this factor. The presence of peroxides, it is true, does not necessarily mean that rancidity will take place, for under certain conditions, high peroxide values may be built up without any organoleptic reaction following but to be on the safe side it is best to assume that it is a true induction.

The rate of formation of peroxides depends on the physical conditions to which the product is subjected. The most important of these are the presence of air, light, heat, moisture and certain compounds having a catalytic effect.

Moisture is something that we cannot control since water is necessary in our cream formulas. Heat is another factor with which we must dispense, since cosmetics are sold in some warm places and that is outside our control. The presence of catalysts, particularly oxides of metals, however, may be controlled to a certain extent and these should be checked in the laboratory. I have found the ordinary bromo acids used in lipsticks to be good accelerators. Lewkowitsch in his "Analysis and Technology of Oils, Fats and Waxes" mentions that he kept castor oil exposed for four years without any change occurring. However, if bromo acid is incorporated the castor oil will turn rancid.

The problem of oxygen is difficult to overcome. Vacuum packaging is not the answer since spoilage occurs under these conditions, because of the presence of unstable compounds which decompose under vacuum. Packing in an atmosphere of an inert gas, as carbon dioxide, necessitates an air tight container.

The greatest single factor is light. Recent work has shown that light is a necessary catalyst for the second or aldehyde-forming oxidation to occur. Peroxides are formed in the absence of light but at a much lower rate of speed and do not seem to have anything to do with an organoleptic reaction. Peroxide values five times the amount necessary to produce rancidity in the presence of light have been built up in protected oils without any of the manifestations of rancidity presenting themselves. Another significant point is that these peroxides do not even help the organoleptic reaction along after the sample has been subjected to light. Experiments on oils protected from light by means of a green sextant filter developed a peroxide value, but when the oil this time exposed was placed alongside a fresh sample having no peroxide value and subjected to the same amount of light took no less time to turn rancid than the fresh oil. And the amount of peroxides formed during this period and excluding the initial peroxide value was no less. In other words, a protected oil with an initial peroxide value of 12 turned rancid when the peroxide value reached 40 after exposure, while the fresh oil turned rancid at 28. For the detailed work on this topic the reader is referred to the paper written by Magna R. Coe of the U. S. Department of Agriculture and published in "Oil and Soap," Vol. 14, v. 171 (1937). A great deal of work has been done on the determination of the wave lengths of light which cause rancidity. The different observers, however, do not all agree. I personally have had successful results by using the Coe shade of green which excludes all light below 4900 Angstrom units and above 5800 Angstrom units. It is therefore not necessary to use a black package to overcome this trouble but one of the correct color will do a great deal towards overcoming the possibilities of rancidity.

A large number of antioxidants have appeared on the market designed to prevent rancidity by preventing oxidation from occurring. The mechanism of most of these is more or less the same. They are supposed to react with oxygen and so produce an unstable product which breaks down yielding the original antioxidant which may once more start on its cycle, but this time the free oxygen released is in an inactive and therefore harmless form. A great number of these substances may not be used because of their toxicity. Others cause discoloration on standing and many more are insoluble in the vehicle in which they are to be incorporated and, therefore, not fitted for cosmetic use. Those I have tried which do not possess these qualities, are not complete answers to the problem. Some of them do delay the organoleptic reaction but the time factor is very short. Results obtained with them are also contradictory and a good deal more must be known of the mechanism of the reaction before one can be developed which would answer the purpose of the cosmetic manufacturer.

A brief discussion of the laboratory methods used to determine the induction period may be of some value. The most commonly used method is the Kreis test which depends upon epihydric aldehyde (the substance causing rancidity) being present. This test, while good in a broad general way, has too many limitations to be dependable. Epihydric aldehyde is formed from oleic acid and, therefore, it is inapplicable unless the rancid product contains oleic acid in some form. The Stamm reaction is one that has appeared more recently, but this cannot be applied to a very large number of oils since it does not work on vegetable oils.

The Wheeler-Swift test is the most recent of the commonly used ones and is I think the best. It depends on the oxidation of potassium iodide to free iodine by means of the peroxides present and the subsequent titration of the free iodine formed. This method is therefore good from a qualitative and quantitative standpoint. It has one limitation and that is the fact that peroxides may be formed which do not necessarily cause rancidity. I believe, however, that it is better to have a reaction yield a positive result when it is negative than vice-versa. A great many variations of the method have appeared in the literature lately designed to make the chemist's task simpler but, if he has his solutions properly set up, it takes no longer than five minutes to run the test in the original manner and it gives a much more accurate result.

My discussion here has been confined to the most common form of rancidity—the oxidation variety. It occurs just as long as air comes in contact with oils or fats, but by eliminating some of the better controlled physical conditions it may be controlled. This, of course, is not a complete answer to the problem, but until more is known of these reactions, the problem is best attacked in this way.

A most attractive counter selling package of the year is Norwich's new Ocusol eye lotion. It is said to be receiving a hearty welcome by the trade.

NAIL NOTES

THE nails seem to be very much with us these days. Aside from the shades, which change faster than you can say nitrocellulose, and which follow the decrees of fashion, there have been other innovations which reflect the importance of this particular group of products. The first of these was "Padz" which we showed in our November issue. These were the pad polish removers which are said to lubricate the nails and cuticle as they remove the enamel.

The Fort Orange people, too, have something which slipped unassumingly into our November issue, but which deserves special comment. Their bottles of nail enamel have been equipped with shade selectors, tiny tabs of cellulose tinted the color of the accompanying enamel, which are fastened to the outside of the bottle by a label. These tabs are shaped like a fingernail and are flexible, so that the customer may slip her own fingertip underneath and thus see how she likes the shade. It's a grand idea, and all at syndicate store prices, too.

Another polish remover which "soothes as it removes" is "Nai Fair." This is a cream remover, packaged in a tube, which is sponsored by Mrs. L. M. Reiley, of 430 East 86 Street, New York. She claims that this product is a splendid enamel remover which at the same time lubricates the skin, preventing and curing hangnails.

This protective feature is even more strongly emphasized by Juliette Marglen Products Co. of Hollywood, which is currently introducing "Nail-O-Wax." First copy calls it "the original protective and stimulating wax . . . guards the nails while they attain their fashionable length, encourages nails to grow thicker and stronger, keeps the cuticle soft and pliable, and gives fingers a slender, tapering appearance. Women . . . welcome Nail-O-Wax as a long-needed protection for brittle, thin nails that easily split or break."

"Nail-O-Wax" is the keystone in a line of enamels of various shades called "Wax-O-Namel." The wax re-

(Continued on page 42)

KNOWLEDGE OF VITAMINS

By A. RICHARD BLISS, Jr.

VITAMIN F

"VITAMIN F" is a term used by some investigators for a substance or factors identical with or similar to a group of unsaturated fatty acids, such as linoleic acid or isolinoleic acid, believed to be of value in maintaining normal skin and other epithelial tissue, and in preventing certain skin lesions.

It may be associated with Vitamin E in some cereals, and may be present in cod liver oil and in milk. Some "skin creams" have been marketed the claimed beneficial effects of which are based on the presence of Vitamin F. Comparatively meager data concerning Vitamin F appear in the literature, and further research must establish the validity of these claims.

VITAMIN H

During the investigations carried out by Boas at the Lister Institute in 1927 on the effect of desiccation on the nutritive properties of egg-white, it was observed that after about three weeks on a diet which contained dried undenatured egg-white of Chinese origin, rats showed a loss in weight, dermatitis, baldness and spastic gait, symptoms of a pathological condition which terminated fatally. This investigator demonstrated that these effects can be counteracted by feeding the animals fresh egg-white, dried yeast, bananas, spinach, milk, cabbage, etc. This work lead to the postulation of a protective factor, termed by György "Vitamin H," who showed that it is rendered soluble only by digestion with papain of the material containing it.

Vitamin H is said to have chemical properties which are widely different from those of Vitamin B_6 (*See this journal for Sept. 1937.*); thus, Vitamin B_6 is basic, while Vitamin H is an acid ampholyte. The results of Vitamin H deficiency are said to be distinctly different from those resulting from Vitamin B_6 deficiency, and the cure of the H avitaminosis dermatitis in rats was so uniform that György worked out a provisional rat unit and the preparation of concentrates containing 1 rat unit (the minimum daily subcutaneous dose which will cure rat dermatitis in four weeks) in 5 micrograms of material. György placed the prophylactic and therapeutic doses at about 50 units per kilogram.

The sources of this vitamin are limited. Liver and kidney, the present richest sources among foodstuffs, contain but 10 subcutaneous units or 2 peroral units per gram. The daily curative dose would consequently be about 500 grams of fresh kidney, liver, or dried yeast per day. The concentrates which have been thus far reported were prepared for research purposes, and are not yet commercially available.

Clinical studies indicate the *possible* value of Vitamin H in alopecia areata, psoriasis, status seborrhoicus, and allergic eczema, but confirmation and the correct indications for treatment must be established by continued, extensive clinical experimentation.

VITAMIN K

Dam and Schönheyder of the University of Copenhagen demonstrated a deficiency disease which resembles scurvy in chicks, but which is not prevented by ascorbic acid. (*See this journal for October, 1937.*) These investigators attributed the condition to lack of an antihemorrhagic factor or factors in the diet. The chicks showed a marked retardation of the clotting of the blood. Almquist and Stokstad of the College of Agriculture of the University of California confirmed the work of Dam and Schönheyder.

The factor is fat-soluble, and has been found in cereals, hempseed, hog liver and some vegetables. Dam and Schönheyder proved it to be different from Vitamin

A, D and E. Dam suggested the term "Vitamin K"—*Koagulation-Vitamin* in German and Scandinavian. Green vegetables seem to be the richest sources of Vitamin K, and concentrates have been prepared from dried alfalfa.

Schönheyder devised a method for estimating Vitamin K which depends on the relation between the concentration of a clotting agent required to clot a diseased plasma and that necessary to clot a normal plasma from a healthy chick. Almquist prepared crystals possessing Vitamin K potency, an account of the preparation was published in *Nature* for July 3, 1937.

Although Dam and his colleagues produced the hemorrhagic disease due to Vitamin K deficiency in ducklings, young geese, pigeons and canaries, and observed that dogs, rats and guinea pigs can be kept on the basal diet for long periods of time without showing signs of the disease, no evidence has been thus far presented to show that the vitamin is indispensable in the food of man. It is conceivable, however, that certain diseases which are characterized or followed by retarded clotting power of the blood, such as hemophilia genitalis, may have some relation to lack of Vitamin K.

VITAMIN P

Szent-Györgyi and coworkers of the University of Szeged have shown that, while pure ascorbic acid (*See this journal for October, 1937*) is not effective in modifying or preventing certain pathological conditions which are characterized by an increased permeability of the capillary walls, extracts of lemon juice and of paprika produced beneficial results. They announced recently the existence of a substance which is not synthesized by animals subject to scurvy, and which apparently regulates vascular permeability.

Fractionation of lemon juice yielded an active, almost pure flavine or flavonol glucide termed "citrin," which clinical experimentation demonstrated was responsible for beneficial effects obtained in the treatment of patients suffering from vascular purpura, diabetes, myxedema and infectious diseases. Because of the fact that in many diseases the permeability of the capillaries to albumin is controlled by "citrin," this substance was given the title "Vitamin P"—Permeabilitats-vitamin.

Bentsath, St. Rusznyak and Szent-Györgyi demonstrated the influence of "citrin" on the vascular permeability in guinea pigs. Animals which had survived 28½ days on a scorbutic diet were kept alive 44 days by the daily addition of 1 milligram of "citrin" to the diet. At autopsy, the intensity of the hemorrhages in the guinea pigs which had received the Vitamin P was found to be decidedly less than in control animals.

Bruckner and Szent-Györgyi showed that "citrin" consists of a mixture of the crystals of two vegetable dyestuffs, Hesperidin, which melts at 261°, and which predominates, and an Eriodictyol glucoside, which is a demethylated hesperidin. From these chemical, pharmacological and clinical investigations, Szent-Györgyi and his coworkers concluded that the syndrome of experimental scurvy is caused by a combined deficiency of Vitamin C and Vitamin P. They demonstrated that pure Vitamin C deficiency can be produced in guinea pigs only when Vitamin P is administered to animals on a scorbutic diet.

Zilva found that a daily dose of 1 milligram of "citrin," of a mixture of 2/3 milligram of Hesperidin and 1/3 of a milligram of Eriodictyol, or of 1 milligram of purified Hesperidin *failed* to retard the onset of scurvy in guinea pigs or to prevent or delay the death of such animals on a scorbutic diet. Autopsy of these animals disclosed typical scurvy characterized by extensive, fresh hemorrhages. Only by further research will it be possible to explain the discrepancies in the results obtained by Szent-Györgyi and those secured by Zilva.

Nail Notes

(*Continued from page 40*)

tails for $1.50, the enamels for 60 cents, and "Nail-O-Wax Remover" for 25 cents. A special introductory set of the three retails for $2.25 and distribution is "restricted to selected toiletries departments in every community."

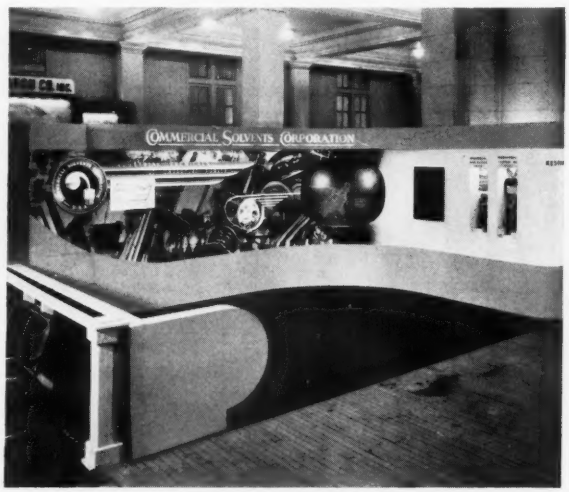
The *modus operandi* is to apply a coating of the wax first (it is in liquid form) and after it dries, to apply the enamel. It is emphasized of course that "no other nail polish can be successfully used with 'Nail-O-Wax.' "

Campana's New Plant

(*Continued from page 36*)

ever heat is required, a factor influenced by the rise of outside temperatures from morning to night.

Located on a 14-acre tract half way between the villages of Batavia and Geneva, Illinois, on Route 31, one of the nation's busiest highways, far from smoke and grime but close to the transportation and power facilities Campana occupies a front of 325 feet, with 85,000 square feet of floor space and a cubical content of 1,000,000 square feet. It has a private railroad siding.



At the recent Chemical Exposition held in New York, Commercial Solvents Corporation attempted to portray its facilities for service to industry. The result was most attractive as well as interesting and instructive.

PRICE-FIXING TO DATE

As THE price-fixing situation now stands, the hub-bub accompanying its introduction seems to have died down considerably. This does not mean that the problem has disappeared, but it does mean that the retailers, wholesalers, and manufacturers are taking the matter more in their stride. It has taken time for manufacturers to work out their contract and properly to get them working in the various states. Now these contracts are coming through one after another so that the independent retailers and chains, who are anxious to have prices maintained, are appearing more satisfied.

The question of meeting competition has been settled in some instances. The price-war which broke out in liquor prices in New York City resulting in injunctions being obtained against those who met the competition as well as against the one who started it. This proves that the right to meet competition on items which are cut in violation of a fair trade contract does not exist. So even though a store might threaten to meet price-cutting on an item sold under a fair trade contract, they are just as much a violator of the law if they do so as the original price-cutter. Such a decision by the courts was essential if price contracts were to mean anything, since otherwise price-cutting could immediately slide back to where it was before any contracts were issued. This would entirely nullify the law.

The only instances where price-cutting continued over any period of time were those instances in which the manufacturer hesitated to sue so many of his customers who were only claiming to be protecting their own business. The retailers told the manufacturers that the price-cutting by the first retailer was his responsibility and that since the manufacturers did not stop him immediately, they were injuring the business of other retailers. The manufacturers laid off suing these other people with a generally disorganized market.

The clause which binds non-signers of contract to observe prices named in existing contracts is naturally the heart of the price maintenance laws and is the only thing that can make them effective. To friends of price maintenance there now comes as a body blow the fact that the Federal Trade Commission is now questioning the validity of this part of the law when manufacturers are operating in interstate commerce. This point of view was brought out in a speech which Federal Trade Commissioner R. E. Freer made before American Marketing Association in Atlantic City recently. Mr. Freer spoke on matters which have not as yet been decided with reference to the Miller-Tydings law, which is the law that allows manufacturers to operate in interstate commerce under the state fair trade acts. Mr. Freer said that he would raise for consideration several questions applying to this law. The most important of these questions, said Mr. Freer, is: "Does the Miller-Tydings Act in removing from question, in states having resale price laws, those contracts which prescribe minimum prices, also permit the enforcement of such contracts relating to interstate commerce, against

parties who are not parties to them, or must efforts at such enforcement be regarded as unlawful under federal anti-trust laws?"

Following are more of the questions which Mr. Freer raised with reference to the Miller-Tydings Law, but which he did not discuss or answer:

"(1) Does the federal law now authorize contracts in commerce establishing any price but a minimum price, or contracts which, using the term, minimum price, establish a price so high that it has the effect of an unreasonable restraint of trade?

"(2) Does the federal law authorize contract provisions concerning the terms of sale, such as the fixing of trade-in allowances, the prohibition of premiums and free deals, and the requirement that the buyer must not resell except to consumers for use. Similarly, does the federal law authorize contracts that require the first buyer to exact a supplementary contract of a subsequent buyer for resale?

"(3) Does the federal law have the effect of permitting a buyer in interstate commerce to remove identifying marks from the commodity and thereafter to ignore the contract price, regardless of whether such permission is granted by the law of the state in which he resells?

"(4) Since the federal law authorizes resale price contracts no further than they are authorized by state laws, and since many of the state laws apply only to goods which are in *fair* and open competition, is the exemption of the federal law invalid in sales into those states if *unfair* competition exists in the sale of the commodity?

"(5) Since the federal law authorizes contracts only for commodities which are in *free* and open competition, does it leave open to question contracts covering commodities so sufficiently distinctive that substitutes would not be wholly satisfactory? For example, does the federal law authorize interstate contracts for the maintenance of the price of best selling books for which other books would not be readily accepted as substitutes by the buyer?

"(6) Does the federal law authorize resale contracts to be made by sellers who have no property rights in the good-will attaching to the brand?

"(7) Do the state laws go beyond the bounds of the federal law if they permit the contract to require that when a wholesaler sells to another wholesaler, or a retailer to another retailer, he shall insist that this second distributor observe resale prices?"

Some idea of the thoughts which the Federal Trade Commission might entertain with reference to price maintenance can be obtained from Mr. Freer's talk. Mr. Freer expressed the thought that popular reaction as the result of these laws might take the form of agitation for government regulation of the contract prices or nullification of the enabling legislation. "And nullification might take two forms," said Mr. Freer, "either outright repeal of the resale price laws, or such consumer reaction as would make general observance of the contracts impossible."

Mr. Freer continued on this thought as follows:

"Thoughtless or reckless jacking up and pegging of prices would engender popular demand for intervention by the government to protect the consumer. And there is a wide difference in the type of government intervention sanctioned under the present anti-trust laws and that which would be necessary should the government be required to regulate the reasonableness of resale contract prices. It is the difference between negative regulation and affirmative management—between ordering a business man to cease and desist from some specific unlawful practice and supervising one of his managerial functions.

"Apart from the possibility of direct efforts to elevate contract prices too high, there is in a system of resale price maintenance a danger that prices also may be raised through an increase in the costs of retail competition. In the absence of price considerations, retail dealers must emphasize other means of attracting business. If the emphasis is placed on such other factors as size of stock, service, location, and facilities, it seems inescapable that the costs of such factors and consequently of distribution, will be increased.

"If such a result occurs, it is hard to see that any great improvement will have been made in competitive relationships, and the public will have been saddled with the burden of wasteful and unnecessary increases in the costs of retail distribution."

In conclusion, Mr. Freer said: "Let me remind you of two things: First, that the Miller-Tydings Act does not wholly repeal either the Sherman or Federal Trade Commission Acts, and that those who would use the provisions of the Miller-Tydings Act to accomplish monopolistic restraints of trade must still run the risk of anti-trust proceedings; and second, that, although the Miller-Tydings Act and the resale price legislation of most of the States represent an experiment based upon a partial reversal of our former law and public policy, their final test must be their practicality and the fairness of their economic results in actual operation, as determined in the court of public opinion."

Of course there is nothing new in the fact that the Federal Trade Commission is not friendly to price maintenance. But it was thought that once the Miller-Tydings Law was enacted that the Commission would not go out of its way to upset the law completely. Now it appears as though the Commission might do this very thing since they are aiming at the one part of the law which gives it its effectiveness.

There are those who are anxious to see the Commission press this point to a final decision so as to learn whether or not the laws are going to stand. For if these laws are not going to stand, then manufacturers must know it as soon as possible so that they can give attention to other ways of conducting their businesses. Some manufacturers are of the opinion that it is a good thing to have the Federal Trade Commission watching out for

consumer reactions, since this reaction is the most important thing of all so far as the industry is concerned. After all the consumer buys the merchandise, and if he does not buy it because of high prices, then the whole plan must fail. And if the price maintenance laws remain on the statute books, and the retailers continue to threaten manufacturers who do not enforce contracts, then the manufacturers will be caught in the middle of the jam. However, if the Federal Trade Commission watches consumer reaction and finds that the price maintenance laws are generally hated, then they might be able to support themselves in a decision that might nullify the laws so far as operation in interstate commerce is concerned. And we all know that if manufacturers are not allowed to operate in interstate commerce under these laws, they will not operate under them except in their home states. This was the situation before the Miller-Tydings Law was enacted, and it would be the case if the Miller-Tydings Law was nullified.

The wholesalers stepping into the picture and attempting to force manufacturers to abide by the prices which the manufacturers have specified in the manufacturer-wholesaler contracts, is bringing nothing but gloom to many manufacturers. These manufacturers had special prices for very large quantities large retail outlets. Now the wholesalers state that the manufacturers are bound to sell retailers only at the prices which the manufacturers have stipulated in the manufacturer-wholesaler contracts just as any other nonsigner is bound. The only way that manufacturers can do this is to put these prices in the manufacturer-wholesaler contracts for the quantities that they involve even though the prices are below the wholesalers' cost. This the manufacturers do not want to do because it exposes these low prices to the view of everyone seeing these contracts.

There is possibly one other way in which the manufacturer can get around the problem and that is by giving these large retailers allowances for special services performed such as is permitted under the Robinson-Patman Law. This would be permissible since under the Robinson-Patman Act he only required to offer these allowances to all the buyers in competition with each other whom he sells. He is not required to give any such allowances to the wholesalers, nor to the retailers whom the wholesalers sell.

A new Norwich display now being offered through representatives only features the Unguentine nurse who stands 5 feet 5 inches high, a beautiful life-like reproduction from a Bradshaw Crandall painting.

THE BENZOATES

By M. A. LESSER

In the literature on the benzoates, particularly in the field of therapeutics, there is a tendency to compare this group of compounds with the salicylates and in their medical applications these two groups have many points of similarity.

Before entering into a general discussion of the benzoates, it is well to consider benzoin. Not only does this gum owe its usefulness to the benzoic acid it contains, but it also is the predecessor of many of the present applications of the benzoates. At one time it was a source of benzoic acid, since it contains 10 to 20% (average 14%) of this compound, which may be obtained free by sublimation. The gum also contains about 1% of vanillin, to which its pleasant odor may be largely attributed as well as to small amounts of styrene, benzaldehyde and benzene present.

The rest of the gum, about 80%, consists of resins. Although it was known to the ancients, its name being of Hebraic origin, the gum was not introduced to Europe until the 14th Century through the writings of Batuta. It might therefore be said that the use of the benzoates has a long and distinguished history. That the natural gum is still an important medical item, is emphasized by the fact that its tincture is included in the galenicals list of the St. Louis Prescription survey.[1]

Its antiseptic and preservative properties, as well as its odorous qualities, make the gum valuable in many types of preparation. Benzoinated lard, U.S.P., for instance depends upon it for the preservative action as well as to cover the odor of the fat. The principal use of benzoin is as a stimulating expectorant, exerting a soothing and antiseptic action on the bronchi. Because of this it is much used in bronchitis, especially of the aged, and in laryngitis. A teaspoonful of the compound tincture of benzoin to a glassful of boiling water, gives off vapors, which upon inhalation are beneficial in bronchial conditions.[2] This tincture is also very valuable as a stimulating and protective local application for sores, ulcers, and foul-smelling wounds. When combined with glycerine and water, the tincture is used in stimulating antiseptic and protective lotions for sore nipples, and cracked lips and hands. Dermatologically, benzoin is used in many skin affections such as urticaria, scabies, and 'athletes' foot. It has been used to remove freckles. Its use as a diuretic and genito-urinary antiseptic depends upon its benzoic acid content and preparations of the gum have been employed in the treatment of chronic cystitis and in the later stages of gonorrhea.[3] Taken internally, benzoin causes a slight feeling of heat in the stomach, increases the pulse rate, stimulates the action of the skin and kidneys as well as the salivary glands and the bronchial mucous membranes.[4]

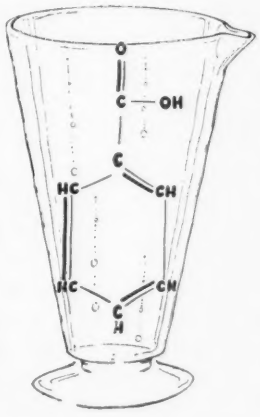
Another drug, valuable because of its benzoate content, is Balsam of Peru, U.S.P., which contains about 60% of cinnamyl benzoate, often known as cinnamein. Its uses and actions are similar to those of gum benzoin. The balsam preparations are used in expectorants and for various pulmonary conditions in protective and antiseptic ointments for many skin conditions and somewhat as a urinary antiseptic.[3] Other natural drugs which owe much of their beneficial action to the benzoate content include storax, dragon's blood and other natural resins. Benzoic acid also occurs naturally in oil of bergamot, cinnamon, vanilla and in calamus root.

The synthetic benzoates, however, far exceed the natural drugs in their wide variety of application, although in many cases their employment is similar. Because of the large number of benzoates in use, they are better discussed from the viewpoint of application rather than as individual compounds. Therapeutically the benzoates have many valuable uses.

Benzoic acid (C_6H_5COOH) *sometimes called flowers* of benzoin, is valuable largely as a starting point for the manufacture of certain of the benzoate salts, particularly of the sodium form.

Benzoic acid itself is produced from a larger number of substances but its synthesis from toluene by oxidation is most generally used. As a matter of fact, benzoic acid can be obtained by the oxidation of practically any aromatic compound in which a phenyl group is attached to a carbon atom. The acid itself is oxidized only with

difficulty. The lustrous, almost colorless and nearly odorless scales or needles of the acid cause sneezing and coughing when vaporized. Although difficulty soluble in cold water, it dissolves readily in hot water, alcohol and several other organic solvents. Its major medical value is as a mild antiseptic. A 1% aqueous solution is a standard dental antiseptic. As a 1% hydro-alcoholic solution and as a 1 to 10% ointment it is used as a wound dressing. These preparations are also employed in the treatment of favus, a contagious skin affection generally known as honeycomb ringworm, other so-called ringworm affections, and pruritis. Compound Ointment of Benzoic Acid, N.S. (Whitfield's Ointment) is also applied for these conditions. The acid is also used as a diuretic, though the sodium salt is preferable, because of the gastric irritation that may be produced. Benzoic acid is an ingredient of Tincture of Opium Camphorated, U.S.P., commonly called paregoric and used to relieve intestinal cramps.



Sodium benzoate (C_6H_5COONa) is a most valuable benzoate from the therapeutic aspect. It is in tenth place in the chemicals list of the St. Louis Survey.[1] It is prepared by neutralizing the acid with sodium bicarbonate. The sodium salt is a white, odorless powder which is freely soluble in water, soluble in alcohol and incompatible with mineral acids and ferric salts. Sodium benzoate has been employed as an intestinal and genito urinary antiseptic. Sodium benzoate has been useful in the treatment of chronic cystitis. Not only does it aid in neutralizing the urine alkalinity, but it also exerts a stimulating and disinfectant action on the visceral mucous membranes. The treatment of gout and other diseases based on the theory that they lessen the uric acid excretion is no longer used.[4] Nor has it been found efficient in the treatment of gastric ulcers by intravenous administration as recommended by Bazzano.[5] Sodium benzoate has been used as a substitute for the salicylates in the treatment of certain septic diseases. Although this drug is slower in action its effects are more lasting and larger doses may be safely given. It has been used in the treatment of diphtheria, scarlet fever, in acute rheumatism, in typhoid fever and in malarial fever. The salt has been found an aid in the therapeutics of whooping cough. It has been administered by inhalation in phthisis, a wasting of the body usually due to tuberculosis. This latter method has now been largely displaced by the modern method of direct intravenous injection of sodium benzoate in the treatment of pulmonary tuberculosis. It has also been given intravenously for abscess, suppuration and gangrene of the lung. Goldkorn, who has given thousands of intravenous injections for the treatment of lung abscess and gangrene, finds that this method causes drainage, and benign influence upon expectoration. The antiputrid action of the sodium benzoate caused the cough and the unpleasant breath of these conditions to disappear. When given in adequate doses, patients note a sudden, pleasant odor, and a feeling of heat in the head and chest. This, according to Goldkorn, shows the definite affinity of the drug for pulmonary tissue. Goldkorn used these reactions to gauge his dosage, for they showed that saturation had been obtained, an essential for good results. In several cases of gangrene of the lung the therapeutic effect was noticeable in five to six days. He has obtained permanent cures in a large proportion of his cases by this technique. The preparation, a 20% solution of sodium benzoate must be made pure and fresh each time. Acute cases require about fifteen injections and chronic about thirty-five. In all cases the injections are continued until the clinical and roentgenological findings are negative. In about 30% of his cases there was dizziness and flashes before the eyes which lasted about a minute. It is therefore best that the injections be given slowly. These symptoms are readily relieved however, by administering a few drops of tincture of opium or belladonna. Similar therapy, but in smaller doses, has been used in bronchio-pneumonia. There were no contraindications.[6] Sodium benzoate is practically non-toxic.[7]

The combination of about equal parts of caffeine with sodium benzoate is a highly soluble preparation whose purpose is chiefly to aid the administration of the caffeine, in solution, for oral or parenteral use.

Ammonium Benzoate, U.S.P. ($C_6H_5COONH_4$) resembles sodium benzoate in its action, but being more irritating, has no advantage over that salt. Ammonium benzoate has been given to increase urine acidity but is not as efficient as sodium phosphate for this purpose. Lithium Benzoate, N.F., has a midly antiseptic action but is not much used today, although it was formerly employed in the treatment of gout.

These simpler benzoates have comparatively low toxicities, though large doses may produce digestive disturbances resulting in vomiting and nausea. Benzoates have less action on the central nervous system than the salicylates, The characteristic disorders of hearing associated with the latter drugs are absent with the benzoates.[4]

Several years ago the salts of ortho-iodoxybenzoic acid were introduced into therapeutics for the treatment of infectious arthritis. Most of the early experimental workers used the ammonium salt. The intravenous method of administration was used, though capsules of the drug were given orally. These compounds are actively germicidal to staphlococci. This drug may result in untoward effects when given intravenously, though many patients are quite tolerant of this medication. Other untoward reactions may be present, followed perhaps by chills and fever. The condition of the patient is an important factor and severely deformed cases do not respond as readily. The bene-

ficial results of this treatment are noted in the lessening of the pain in the joints, a decrease in swelling, plus an increase in the range of motion accompanied by a loss of stiffness. Then, too, there is quite often an improvement in health with a gain in weight, strength and general well being.[4] Recently, Cohen reported on a series of cases of atropic arthritis where he used only calcium ortho-iodoxybenzoate therapy. Larger doses than were formerly employed were given. As a result of this work, this drug has augmented the armamentum against this disease.[8]

One of the most unpleasant features of scabies, a highly contagious skin condition due to a minute insect parasite, is the three day 10% sulphur ointment treatment. The introduction of a successful benzyl benzoate lotion which reduces the actual treatment time to about forty-five minutes, is one to be appreciated. The British formula for this preparation consists of equal parts of soft soap, isopropyl alcohol and benzyl benzoate. About 150 grams suffice for a treatment.[9] A Danish formula is quite similar, except that ethyl alcohol is used and that about one half the amount is employed.[10] The treatment consists essentially of a hot soap bath followed by application of the lotion with a small brush, allowing the body to dry and then the rubbing is repeated. On the next day another hot bath is taken, and fresh clothing put on. As in all scabies treatments, all clothing and bedding should be boiled. These applications are odorless, do not irritate the skin, active lesions are cleared up after one day's treatment and the itching diminishes greatly.

Benzyl benzoate ($C_6H_5COO.C_6H_5CH_2$) has also been used in other dermatologic preparations and for the treatment of several types of colic, bronchial asthma, pertussis, hiccup and dysmenorrhea.

Certain of the benzoates have become important local anesthetics. Benzocaine, or ethyl amino benzoate, introduced under the trade name of "Anesthesin" has found wide usage as a local anesthetic in painful wounds, ulcers of the skin and accessible mucous surfaces because of its comparative insolubility.[11] It is also used internally to relieve the pain of gastric ulcer and cancer. Another widely used anesthetic of the benzoate group is n-butyl-p-aminobenzoate or Butesin, a powder which is used and acts in the same way as benzocaine, but is claimed to be more effective. Both benzocaine and butesin may be applied in the form of ointments or in suppositories.[12] Orthoform, methyl-m-amino-p-oxybenzoate, is a local anesthetic which penetrates the tissues slowly, has no action on unbroken skin, is practically non-toxic and is used as a local analgesic for all types of wounds.[12] Even novocaine might be considered under the benzoate heading since it is related to p-amino benzoic acid.

It is as preservatives and, to some extent as antiseptics, that the benzoates excel. The benzoates are used as preservatives in medicinals, ointments, fine soaps, lotions, cosmetics, foods, drinks and a host of other preparations. Back in the days when the Food and Drug Administration was scouting down preservatives, an investigation made by the Referee Board of Consulting Scientific Experts concluded that sodium benzoate in small doses (0.5 grams per day) is not injurious to health and in large doses, up to four grams per day had neither been found harmful to health nor to act as a poison in the general acceptance of the term[13]. Thus sodium benzoate met the first important requirement of a preservative, that it be non-toxic. Preservatives should not change the physical characteristics of the product and must give continued preserving effects, that is, it must not evaporate. Benzoic acid and most of the benzoates meet these requirements. This salt is a permitted preservative, provided that its presence and the amount, usually 0.1%, is stated on the label.[14] Some manufacturers have not used this benzoate in their products, either because they wished to avoid what in their opinion was an obnoxious declaration, or to be able to state that it was not used. It is true that care, aseptic conditions and new processes have cut down the need for preservatives in many products, particularly foods. The use of benzoates has nevertheless increased and received continued study. A Danish study of the relative bactericidal power of a list of seventeen preservatives, gives sodium benzoate first place. As a rule, sodium benzoate is a better preservative than most of the other benzoates, but its odor or taste is sometimes difficult to mask. For several years the methyl and propyl esters of ortho-and para-hydroxybenzoic acids have received wide study and large application. These may be added to the preparations either dissolved in water, or if water is not desired, in 95% alcohol. These p-hydroxybenzoic acid esters are white, odorless and tasteless powders. The esters are non-toxic, so that they may be incorporated in mouth washes, in lotions and in cleansing preparations. The germ killing power increases with the molecular weight of the alcohol radical, the benzyl esters are considered strongest. Some of these have been adopted as preservatives in a number of preparations by the Swiss Pharmacopoeia.[15] A table listing the amounts and types of the esters suitable for various cosmetic preparations, was given in "The Drug and Cosmetic Industry."[16]

Oxyquinoline benzoate is a useful oil-soluble antiseptic. It is used to the extent of 0.5% or less in baby oils.

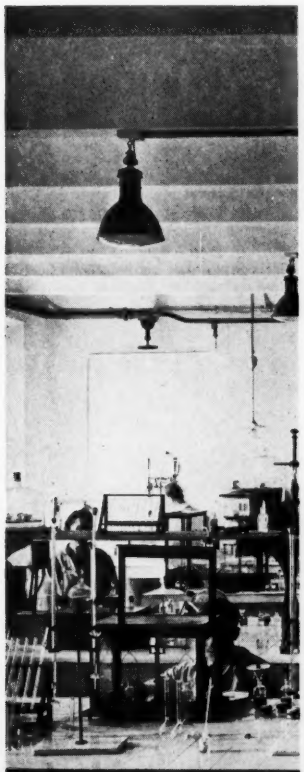
Recently, sodium dichlorosulfo-aminobenzoate was introduced as a cosmetic antiseptic for use in toothpastes, gargles and the like. It is claimed to have a phenol coefficient of 45.

Perfumers find application for many of the benzoates in their products and these compounds are much used as odorizers and sometimes as flavoring agents in many preparations. Benzoic aldehyde (C_6H_5CHO), or benzaldehyde, is more commonly known as artificial oil of bitter almond. It has the same properties as the purified natural almond oil which it has largely displaced in the market because of certain advantages, not the least of

(*Continued on page 60*)

CONSTRUCTIVE COST REDUCTION

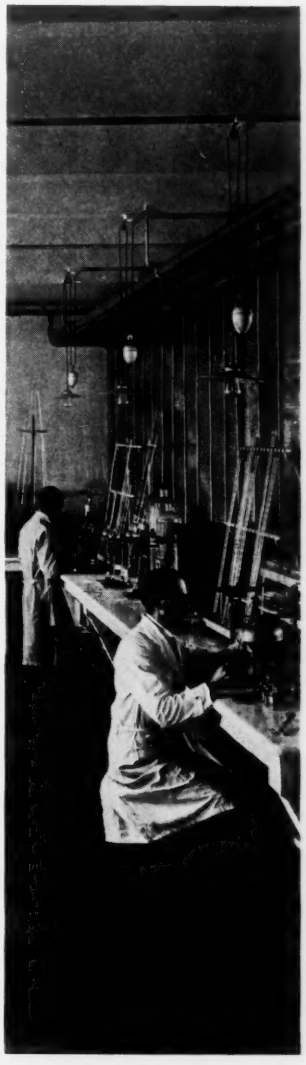
By FRANCIS CHILSON
Consulting Production Engineer



THE idea of reducing costs appeals to most manufacturers but they are not always willing to make the investment which is sometimes necessary. There are a few plants so badly mismanaged that it is possible to effect very considerable savings without the investment of a nickel. But the general rule is that it is necessary to correct the errors of the past and this requires a variable expenditure. The problem of cost reduction offers so many avenues of approach that it is difficult to select the best and quickest one. We shall therefore discuss several which are worthy of investigation.

One prolific source of waste is in formulation. It is probably safe to say that many standard formulae contain materials, the function of which is duplicated by other ingredients in the same formulae. For example a formula may contain two or even three laxative ingredients, the elimination of one or more of which will not affect the efficacy of the preparation in the slightest degree. Established formulae are very likely to contain functional duplicates, one or more of which can be eliminated without altering the taste, appearance, character or function of the preparation.

A second source of waste in formulation lies in the inclusion of incompatibles, which precipitate out and are eliminated in filtration. This is a very common occurrence even in formulae supervised by competent chemists. When the incompatibles are obvious they are sometimes caught and corrected, but it often happens, especially in dealing with organic materials, that the incompatibles are obscure and hence are not so easily caught. In a complex formula the presence of a suspicious precipitate is often a warning sign. Many chemists never investigate this condition; they simply say that the preparation must be aged until precipitation ceases before it can be filtered, which often is another way of saying that the product must be aged until a good part of its original materials are thrown out.



Still another source of waste in formulation is caused by the presence of useless ingredients. A formulae may contain an analgesic substance when the ailment for which the preparation is intended does not require an analgesic. In dealing with perfume and flavor formulae the number of materials which can be eliminated without harm to the product is legion. Mind you, we have not said one word about substitution of cheaper raw materials. We do not believe in this. We so rarely see scientifically balanced formulae that the modernization of formulae constitutes a new profession for a competent chemist. Indeed, one capable chemist of our acquaintance is already making this his profession. Formula modernization can be achieved without impairment of quality and with positive benefits.

A second prolific source of potential savings lies in the simplification of packaging materials. The package is required to protect the product and to dress it up in appealing style. Both ends can be attained without loading the package with all the numerous kinds of packaging material which might be employed. Cartons, wrappings, excessive protection in the form of heavy corrugated liners can often be eliminated. It not infrequently happens that better protection and more striking appearance can be achieved by simplification of materials. More important than the kind of packaging materials used is the structure and make-up of the package. As a general rule it may be stated that if a package is difficult to handle by mechanical means it is also difficult—and therefore expensive—to handle by hand. A good machine package, as we once pointed out, is *always* a good hand package. Therefore, in package design, simplification of materials and simplicity of design offers a sure means by which costs may be reduced and held at a minimum.

The foregoing two procedures, elimination of waste in formulation and in packaging, offer two direct means by which costs can be reduced. It is obvious that simplification of this kind, not only cuts costs by the elimination of materials, but it also saves labor, supervision, space cost and other overhead expense. The more materials there are in a formula the longer will it take to weigh it out and to make it up; the longer will it take to check the ingredients; the longer will it take analytical chemists to investigate the materials; the more storage space will the materials require.

Cost reduction can be applied to laboratory procedures also. Chemists like to feel that they should be outside the reach of what they call "penny pinching." The Research Muse is hard to woo, they tell us, and she will not be conquered within any definitely planned period. This is probably true insofar as the application of sheer intelligence to research work is concerned. But we wonder how much of the average research chemist's time is devoted to thinking and how much to useless tinkering around the laboratory? It is certainly a false economy, and therefore a waste, to have a good research man washing glassware as so many of them have to do. It is certainly a waste also when research men have failed to simplify their technical procedures to a point which leaves them free a great part of the time for reading, observation and reflection. Some research men are so clumsy in handling their apparatus that it takes four times as long for them to weigh out a sample as it does others. Many research chemists—according to men who are well qualified to speak on the subject—never learn the short-cuts of laboratory technique. In our own experience and observation we have noticed identical laboratory procedures being carried out in several ways. Obviously if there are more ways than one for accomplishing a given object, one of the ways is best. Therefore the standardization of laboratory procedures and the employment of skilled labor for the purely mechanical work of the laboratory, offers a means by which research men can be more profitably employed, and hence offers a means by which the excessive costs of research can be constructively reduced.

The problem of cost reduction in the factory may be divided into four fields of endeavor:—

1. Minimizing handling.
2. Elimination of superfluous supervision.
3. Introduction of better equipment.
4. Simplification of manual operations.

As we have so often pointed out, the major part of manufacturing costs consist of labor required for handling and transportation of materials. But some things are so true that they are accepted as platitudes; we accept them without question and then fail to apply these truths to our daily work. That manufacturing cost is largely handling cost is one of these truths. Unfortunately, the usual cost figures mean nothing. Cost accountants make two distinctions in allocating charges: when it is easy to assign the charges to a particular product they are called direct costs or direct labor; when it is not easy to assign charges directly they are charged to overhead. The result is a meaningless figure from a cost reduction standpoint.

The only true direct cost in manufacturing is the cost of conversion after the material has been fed to equipment. The cost of getting the material to the equipment and of transporting it to the next operation is a handling cost even though the cost accounts may show the labor involved as direct labor. When a department is so poorly laid out that man must take forty steps to load a certain machine instead of ten, the extra thirty steps accomplish nothing except to inflate production costs because these needless steps must be paid for, and the cost of the extra steps is buried in "direct labor."

In order to gain a clear picture of the distance materials must travel, one must follow them from point of receipt to storage areas and from there to production areas; he must follow the materials carefully through each step in processing and from there through packaging to the point of final shipment. And while he is doing this foot work, the time study man will be careful to note, then endless stoppages and the incidental loafing of operators along the way. It is a pretty safe rule to say that the greater the distance that materials must

travel, the greater will be the amount of handling to which they will be subjected on the way.

Most plants are disintegrated either through no layout at all, through poor layout or through improper building construction. In many plants we have seen materials stored at random and similar departments scattered all over the place. Poor buildings are often a cause of disintegrated layout. The failure to provide at the beginning nuclear units, which can be expanded individually as the business grows without disintegrating like departments or similar functions, accounts for eventual disintegration and gradually increasing handling costs.

Therefore, the obvious procedure is reducing handlings costs is to consolidate the layout,—to strive again to restore as far as existing building construction will allow, nuclear operating units which can be expanded or contracted as required. This is sometimes an expensive procedure but we have never encountered a single instance where it failed to pay. Very often indeed this is the means by which additional building construction can be avoided.

The elimination of superfluous supervision is a painful task because it sometimes requires swinging the axe ruthlessly. In some departments we've visited the number of supervisors, assistant supervisors, gang bosses, straw bosses and clerks is amazing—all generals and no privates. If one man cannot supervise at least fifty workers without a clerk or an assistant, there is something wrong with the man, or, more than likely, with the clerical work. We've seen as many as two hundred operators under the supervision of one capable person and we failed to notice anything wrong with the quality of the supervision provided. The foreman really had to work in this case; he had to keep out on the floor on his feet instead of warming a chair in an office. It is almost axiomatic that excessive supervision is also poor supervision. The supervisors have too much time for sociable chats and too little time for work.

But when a similar department is broken up into six or eight units scattered all over the factory, each unit requires some sort of supervisor. Therefore when the layout is consolidated, a single department is created and a single job for a single man is made. Sometimes the necessarily heavy clerical work entailed by the rigid control methods of the drug industry makes it essential to give a department head a clerk.

The introduction of faster and better equipment affords a means of reducing cost. There is no need to point out that equipment that is faster, easier to clean and cheaper to operate is economical and that it represents a self liquidating investment. It is safe to say that the drug industry as a whole is poorly equipped. Much of the equipment now in daily use throughout the trade should be on the scrap heap. But we as human beings like to delude ourselves. As long as we can keep an old piece of junk operating we go on using it; as long as the cost of such a policy is hidden and extracted from us bit by bit we fail to realize that we are spending money foolishly. It's the installment plan psychology; we hate to face the reality of a lump sum payment. But we don't mind paying twice as much provided it is extracted from us over a long period of time, dollar by dollar. Why a manufacturer will grouse about investing a few hundred dollars in a piece of equipment that will give him a net return of ten or even twenty per cent. is beyond me, especially when the selfsame manufacturer will invest surplus funds outside his business at a fraction of this return. The drug industry is under equipped and equipment affords a certain means of reducing costs when it can be economically employed.

The simplification of work—time or motion study some people call it—affords another means of reducing cost. This procedure is simply a supervisory function and it means the study of each operation the worker must perform until it has been reduced to the least number of physical movements. It is the final step in a tightening up program. It constitutes the basis upon which piece or incentive rates may be based. Our experience shows that the average department head does not know how to organize, set up or simplify the work of his operators. The work is usually assigned to the operators who are at liberty to do the job in any way that suits them and this usually is the slowest way. There always is the best way of doing every job and it is the purpose of motion study to find out what that best way is.

There are numerous other ways of reducing costs—in shipping, and in selling for example. But these must be omitted because this paper is already too long. Therefore we shall conclude by emphasizing that very often the surest way to reduce costs is by constructive spending.

Information Wanted

Toilet goods buyers in the West and elsewhere may be interested in this letter from Mock & Blum, counsellors at law: "Apparently there is operating in California a concern under the name of Emile Patou, which has no connection with the house of Jean Patou, and as far as we have been able to ascertain, has nobody of the name of Patou connected with it. We have also been informed that the following names, brands or trade names are in use by him; Ce Soir Ou Jamais D'Emile Patou, Crepe de Chine D'Emile Patou, Le Moment Supreme de Poiret. The first mentioned appears to be a combination of a trade-mark registered by David & Blum of New York in 1929, and the word Patou. The second is a combination of the trade-mark of Millot and of Patou. The third is a combination of the trade-mark of Patou-Le Moment Supreme, and the name Poiret, which belongs to Les Parfums de Rosine. Apparently these goods have been offered in various parts of the country but so far we have been unable to get any facts as to the actual manufacturer. Inquiry from mercantile agencies does not elicit any information as to the identity of Regny & Co., who appear to be offering these goods.

TESTED FORMULAS

AGAIN we emphasize that the first months of the year are not too early to begin work on new summer preparations. The technical difficulties of choosing the correct formula and, removing manufacturing kinks are supplemented by choice of package and arrangement for distribution. As a matter of fact, winter months have become good secondary sales periods, demand coming both from those who follow the sun south and the winter sports followers.

Since a certain number of persons are hypersensitive to sunlight, there is probably a small all-year market in this field. We have had considerable success in formulating sun-proof lipsticks for both men and women of our acquaintance whose lips blister badly when exposed to the sun. A non-toxic, oil-soluble screen is melted with the usual lipstick ingredients, the screen replacing part of the oil, and about double the usual amount of screen being used. Color should be omitted from sticks intended for masculine use.

We are not concerned at present with the mechanism of skin pigmentation, some of the more modern ideas having been covered in the article "Tanning and Burning" which appeared in the February, 1936 issue of this magazine. Discovery of authoritative data, however, has led to a revision of beliefs concerning the activity of light rays. W. W. Coblentz, R. Stair, and J. M. Hogue, writing in the "Bureau of Standards Journal of Research" (Research Paper No. 433) on "The Spectral Erythemic Reaction of the Untanned Human Skin to Ultra-Violet Radiation," conclude that the greatest erythemic response follows exposure to light with a wave-length of 2970 Angstrom units. At 2900 A. U. the response is only 26 per cent. as great and is only 11 per cent. as great at 3100 A. U. Below 2600 A. U. the activity increases to 50 per cent. of the value at 2970, but these rays are less penetrating and do not produce a severe burn. Moreover, these lower wave-lengths may be disregarded in connection with exposure to the sun,

SUNTAN PREPARATIONS

By JOSEPH KALISH

since they are completely absorbed by the atmosphere and do not reach the surface of the earth. From a small number of observations, it is also apparent that burning takes place in summer, when the skin is moist, with only half as much light energy as in winter, when the skin is dry. In Research Paper No. 631, Coblents and Stair quote the data of Ruttenauer concerning rays which tan without burning. He found that the erythemic response at 3261 A. U. is 0.3 to 0.4 per cent. that at 2967 A. U. but that this burn has the property of rapidly changing to pigmentation. Experiments seem to indicate that the longer the wave-length the greater the pigmentation compared with the burn.

This data has not been presented here as window dressing, but is definitely useful. Preliminary choice of the screen to be used in sun tan preparations should be made from absorption data supplied by most manufacturers in connection with their screens. In every case, there should be strong absorption at 2967 A. U. Fluorescence and similar data are substantially worthless. If complete protection is desired, preventing both burning and tanning, the absorption should extend down to 2900 (and lower) and up to 3200 or 3300. For preparations preventing burning but encouraging tanning, the absorption should be greatest at 2967 A. U. and below, but should not extend above 3000 or 3100 A. U.

We see no point in repeating at this time the list of compounds that have been used in the past as sun screens; some are still in use, but the items sold under various trade names have several advantages. Conditions for use have been fully elucidated with authoritative recommendations regarding the best proportions to be included in the preparation; absorption spectra have been measured and harmlessness has been assured; prices are competitive; many of the products have undergone extensive field tests here and abroad. We are compiling a list of these products which is available on request.

Oil

Mineral oil	52.3
Vegetable oil	44.0
Screen	3.0
Perfume	0.5
Color	0.1
Preservative	0.1

Cream

Stearic acid	25.0
Screen	4.0
Triethanolamine	1.0
Glycerin	8.0
Perfume	0.5
Water	61.5

Lotion

Alcohol	42.9
Water	50.0
Tannic acid	5.0
Screen	2.0
Color	0.1

Liquid Cream

Glyceryl monostearate	5.0
Screen	3.0
Sorbitol	5.0
Perfume	0.5
Water	86.5

These screens may also be selected on the basis of their solubility—whether in oil, alcohol, or water, etc. Although the water-soluble products may be easiest from the point-of-view of manipulation, they are probably least satisfactory, since they are completely removed by bathing.

Oils, because they are easiest, but not necessarily the cheapest to make, still hold part of the market. The oil-soluble screen, in the recommended proportion is dissolved (by heating if necessary) in the oil. A *small* amount of oil-soluble color can be added to tint the oil. An excess of color may be added to simulate tan, but may stain clothing and bed clothes. Mineral oil, since it is not subject to rancidity, is probably the most satisfactory vehicle in oil preparations, but it has no emollient value. In some cases it may be necessary to utilize a vegetable oil to dissolve the screen, and peanut and sesame oils are probably as satisfactory as any. The light absorbing value of the oil is generally small and should not be given much consideration in evaluating protection.

Transparent lotions consist of alcohol or water-soluble screens dissolved in water-alcohol mixtures. If the screen is soluble in alcohol, make a relatively concentrated solution and then dilute with water. Solubility will vary considerably, but mixtures can generally be made with from 40 to 60 per cent. of alcohol. A higher concentration than this may be irritating to some skins, while a minimum of about 30 per cent. should be present to increase the rate of evaporation. A few per cent. of glycerin or one of its substitutes are useful for emollient effect. Tannin may also be included, partly to relieve slight burn, but primarily to form a coating to assist the screen in adhering to the skin.

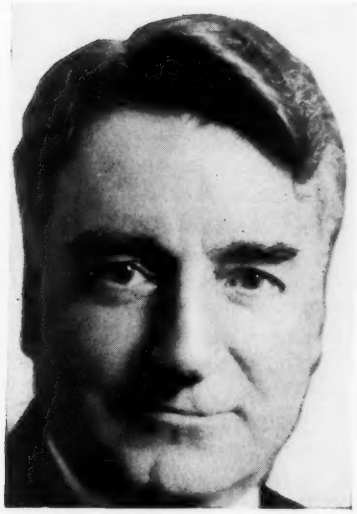
Creams should be quite soft to permit easy and uniform application and preferably low in oil to keep down greasiness. Probably vanishing creams based on stearic acid, glyceryl monostearate, or one of the other oil-in-water cream bases are most generally satisfactory. An oil-soluble screen is preferable, and is melted with the non-aqueous ingredients. A water-soluble screen may be added when emulsification is complete, but might separate after the cream has been rubbed on the skin and the water evaporated.

Liquid creams merely present the usual problems in formulating a good product that will not separate. The liquid should be reasonably thick, so as not to run when applied to the skin. This, incidentally, is one of the disadvantages of the water-alcoholic lotions.

The selection of perfumes requires considerable care. Since the skin when exposed to the sun becomes heated, it is more subject to the action of irritants, which should be carefully avoided. It is probably best to limit the choice to those odors recommended by suppliers for use in sun preparations. Bergamot should be avoided. Copper or no copper as the irritant in the presence of active light, this perfume may leave permanent or semi-permanent stains often accompanied by severe irritation. Because of the uncertainty of its action, it should not be used to stimulate tanning.

Pfaltz & Bauer had an excellent display of scientific apparatus at the recent Chemical Exposition in New York. The results obtained during the week of the exposition were extremely gratifying to the company.

DRUG LAW OUTLOOK



SENATOR COPELAND

For almost five years the question of revision of the Federal Food and Drugs Act has not been settled. Every session of Congress sees new bills introduced, slightly changed from the bills of the year before. Many people thought that the recent tragedy involving an ethical medicine would bring immediate passage of such a law. However, the situation is still foggy.

ONCE again the industry faces a new Congress with the thought that the prospects for a revised Food and Drugs Act look brighter than ever. Certainly the industry feels that the reaction from the "Elixir of Sulfanilamide" tragedy might bring the Federal Administration and Congress to the realization that a more stringent bill is essential to the public welfare. The industry fears that the bill might be more stringent than is required, but at the same time the industry is quite willing to accept revision and get the thing out of the way. After all, the industry will sooner or later be forced to work under a new bill, so they would like to get the bill enacted so that they can get started working under it and know what changes they will have to make.

The longer the matter is delayed, the longer existing companies will pursue in policies which may be incorrect under the new bill, and the harder it will be to change these policies without harm to the business after the new law becomes effective. The industry is now resigned to control of advertising; control of cosmetics; authority of enforcement officials to rule off the market products which are dangerous to health; factory inspection, and many of the other provisions of the proposed bills. Furthermore, the industry is now becoming resigned to one or more of the recent proposals to license manufacturers, or registration of products and licensing of products containing entirely new ingredients. The industry feels that such a bill will do much good in the long run, since it will minimize the number of errors which might occur, and it will make competition healthier.

The industry has no mistaken idea that the law is going to be to its liking, and further the industry does not believe that the increased power given to the enforcement officials under such a bill are going to make these officials any more pleasant to live with. But at the same time the industry feels that the quicker they get such a law and get their businesses adjusted to it, the less will be the losses from such a bill and the greater will be the gains.

The Food and Drug Administration is anxious to have the new bill enacted as it will give them more

power and will eventually make it easier for them to control the industry to a much greater extent then they can control it today. The Food and Drug Administration will be subject to less criticism once they have the industry under control with a more stringent bill. Furthermore, the Administration will have excellent justification, once a new bill is enacted, in asking Congress for an increased appropriation for enforcement of the law. This will give them additional scientists on their staffs, and possibly some salary increase for the top officials. There is no doubt that the Food and Drug Administration would be a happier place if a new and more stringent bill were enacted.

However, despite all the forces working for a new bill, it is still quite questionable whether or not a new bill will be enacted this year. Congress is now faced with some real weighty problems which will doubtless consume all the time which they will have if they adjourn by April which is said to be the plan agreed upon. The tax problem in itself is something to keep Congress real busy, to say nothing of the wage and hour bill, railroad legislation, business recovery legislation, budget legislation, war legislation, and any number of other things which must be cared for before any such thing as a new Food and Drugs Act can have consideration.

This is not to say that the Food and Drugs Act might be pulled out at any moment and passed within the twinkling of an eye upon the strength of a message of support from the President, but at the moment it does not appear as though this is likely. For after all, the Food and Drugs Bill has been a matter of political controversy, and the powers in Washington are not likely to want to stir up any more of these controversies than it is absolutely necessary to stir up. Harmony must prevail on minor matters, so that the major matters can be passed in accordance with the Administration's wishes.

It is the attitude of the Federal Administration and Congress to the matter of the Food and Drugs Act which gives some idea of the insignificance of the subject so far as the welfare of the country is concerned. A change in food and drug legislation would doubtless bring an improvement in public health to some extent, but there are so many other factors controlling the public health, that the influence of this one thing would be relatively small. After all the economic condition of the country has perhaps the greatest influence upon public health of any single factor. Then there are the matters of proper medical attention and care which include a great many other things than drugs and cosmetics.

But this industry will be abused continually until some sort of a bill is enacted. And even when it is enacted, the abuses will continue to some extent, although they will not be so severe, and will not be taken seriously by so many people. The industry is pound to be subject to criticism due to its very nature. After all, therapy is not an exact science since every human being is different and the list of diseases is continually growing. Certainly there are enough failures by physicians to indicate that the art of healing is difficult and far from exact.

The only way in which the industry can aid itself in the matter of food and drug legislation is to keep impressing upon all the legislators whom it can contact, the desirability of such new legislation. In this way the matter will be constantly upon the minds of most of the legislators and when the subject is brought up they will give support to the movement.

For if such a new law is not enacted this year, more of the states which are in session will introduce and probably enact state laws which will not be uniform with the laws in other states or with the Federal law that is finally enacted. Furthermore, these state laws are apt to be improperly drafted to the end that they will be most difficult for manufacturers to work under. The proper method is to have a properly drafted Federal law enacted, and then have the state copy that law for their own use. Otherwise, we shall have a terribly muddled situation with different states having different licensing requirements, different labeling requirements, different advertising requirements, and heavens knows what.

The political situation surrounding the bill has not shown any material change. Senator Copeland is still the sponsor of the bill in the Senate and following the "Elixir of Sulfanilamide" tragedy, Senator Copeland introduced certain amendments to the bill to give Enforcement Chief Campbell the additional power for which he asked in the report submitted to Congress by Secretary Wallace. Those amendments would require licensing of new products including previously untried ingredients.

However, Senator Copeland still remains out of step with the New Deal leaders, and any bill which he sponsors will be looked upon with disfavor. At the same time Senator Copeland remains as the Chairman of the Senate Committee on Commerce—the Committee in the Senate from which the bill must be reported. Therefore, it is impossible for the Administration to get around him and a bill without his name cannot be reported to the Senate, unless his own committee were minded to override him. But the Senate rules of courtesy will not permit anything of this sort.

The House apparently still favors the Federal Trade Commission as the body which should be given control over the advertising provisions of such a bill, while the Senate still appears to stick by the Food and Drug Administration. The only way in which this deadlock can be broken is for the Administration to step in and order one department or the other to lay off the fight. This together with a message to Congress favoring one bill or the other might result in enactment of a bill.

The chances are, however, that the Administration will use its messages and power over the legislators to force through its major bills, and these bills will require so much pressure upon legislators that it is doubtful that there will be any to spare for such an insignificant thing as a new food and drugs law. This is the way the matter stands at present, and if Congress runs true to form there will be no new bill this year. However, every once in a while they pull surprises.

COSMETICS AT ADOLESCENCE

By MARY IMOGENE SHEPHERD

No one seems to have considered the underlying cause for the numerous skin ailments commonly experienced by the adolescent boy and girl. Some physiological explanation must be present to account for any disturbance which causes skin lesions or eruptions, and so detracts from the physical appearance and self-confidence of the adolescent.

Common at the age of puberty to both boys and girls, are facial and body blemishes ordinarily known as acne or pimples. Such a widespread condition has led many advertisers of "sure cures" to exploit their various products,—medicinal or otherwise, in those channels where the young people might most easily secure the information, and spend their money secretly on the worthless "cures."

Nature has a peculiar law which provides that diseases, not highly contagious, shall be self-terminating within a given period. Thus it is that in many instances the acne clears up shortly after the application of some one of these worthless articles has been begun, and the advertising value is thereby enriched to a greater degree through the voluminous testimonials submitted by the "cured" persons.

Underlying common pimples or acne is a very definite condition which may be so controlled as to prevent the appearance of any skin blemishes, and to keep the skin normal, healthy and supple throughout the years of adolescence.

The skin is by far the largest single organ in the body. It comprises nearly 20%, or 1-5, of the total body weight. Its functions include:

1. Protection.
2. Regulation of body temperature.
3. Respiration.
4. Reception of sensations.
5. Secretion.
6. Absorption.

The constant formation of a hard, horny substance upon the outer layer of the skin affords complete protection against light injuries, and a barrier against disease germs. A thin coat of grease is maintained on the skin at all times, which prevents too rapid loss of liquids and heat, as well as the absorption of poisonous substances. The rich nerve supply of the skin makes it immediately sensitive to heat and cold, pain, pressure, touch and friction. The minute blood vessels of the skin assist in maintaining constant temperature by circulating the blood close to the surface at body heat.

An important function of the skin is recognized in its ability to excrete waste materials and normal sweat. Sweat is normally acid, and prevents many microorganisms from growing, should they contact the body.

The skin contains glands of three kinds. First in inportance are the sebaceous glands, which are always associated with the hair follicles. Secondly, the small, or true, sweat glands,—and last, the large sweat glands. Further division of these glands into two types becomes essential, since it is recognized that one form of gland degenerates in the process of activity and continually rebuilds itself. These glands are known as *holocrine* glands. The other type gland merely acts as an excretory channel, and removes the waste materials to the surface of the skin. These glands are known as *merocrine*, since they produce a secretion but they themselves survive.

The sebaceous glands exude a waxy, plastic material known as *sebum*. Sebum is known to consist of a small quantity of fat (in the triglyceride form) the esters of the high molecular alcohols and fatty acids, and a slight trace of cholesterol. Sebum has the function of preventing rapid evaporation of moisture and conserving the warmth of the body. An exceedingly interesting example of this function can be seen in the ordinary occurrence of "goose pimples." The action of the cold which produces these "goose pimples" causes the

erectile tissue near the surface of the skin to press upon the sebaceous glands, and thus exude the sebum which forms a protective covering against the cold.

Particularly of interest is it to note that these sebaceous glands are found in greatest quantity where subcutaneous fat is found only to a small degree. The regions of the forehead, the cheeks, the chin, the nose, the middle line of the front and back of the trunk,—all of which are present over a more or less bony structure with very little fat present, are the most common sites of acne and pimples in the adolescent youth. Those regions then, which require protection from cold to the greatest degree, of which an excellent example is the tip of the nose, are usually the portions of the body chiefly affected by acniform eruptions. Upon these bony areas cosmetics are applied and consequently much thought must be given to the proper type cosmetic product to be used, so as to afford the greatest protection of natural type oils to that part of the skin.

An analysis of the skin indicates that the epidermis or outer portion alone, is made up of five distinct layers. These are, in order from the outside in—

Stratum corneum
Stratum lucidum
Stratum Granulosum
Stratum Mucosum
Stratum Germinativum.

Of these the stratum germinativum, or lowest layer, represents the only portion of the epidermis essential to the reproduction of that skin. The cells of the stratum germinativum multiply, degenerate, and are moved upward toward the surface, forming a wax-like substance known as keratohyalin. This is composed largely of protein and distinguished especially by its cystine content.

Percental analyses of the different epidermal layers as presented elsewhere, indicate a total lipid percentage of 13.4% for the stratum germinativum. Phospholipids to the extent of 3.79%,—free cholesterol in the proportion of 2.10%, and the unsaturated fatty acid, linoleic acid, as 4.97%, form the lipid structure of the stratum germinativum, or the generating portion of the epidermis, which is alone responsible for the reconstruction of degenerated or desquamated outer skin. It is evident that in these portions of the anatomy where little subcutaneous fat is present, the outer skin cannot receive the same toning-up and rebuilding as readily as can the skin over fatter portions of the body. Cosmetics, therefore, must be provided to make up for that lack of underlying skin fat, and to best perform their purpose must contain as nearly as possible the elements ordinarily found in the stratum germinativum or regenerating portion of the outer skin.

Long before its significance was understood, lard was used by the medical profession as an ointment or unguent base because of its peculiar properties of absorption into the skin. The discovery that Vitamin F (linoleic acid, a normal constituent of healthy skin) is present in lard, explains the reason for its remarkable absorptive qualities. A cosmetic so constructed as to contain approximately the same type, quality and percent. of fat ordinarily found in healthy skin, would be a valuable addition to the cosmetic collection of any one suffering from skin disorders. Such a cream could be applied to those bony portions of the body (forehead, chin, nose, etc.), and the amount of subcutaneous fat present could be augmented to the point where protection against evaporation and loss of heat would render that portion of the body just as normal and free from acne as any of the other fatter parts of the body.

Another factor which must be taken into consideration concerning the occurrence of acne, is the question of endocrines and vitamins. When a baby is born, it is covered with a waxy material known as the *vernix caseosa*. The origin of this covering is still unexplained, the belief of one investigator, which seems very probable in the light of the most recent experiments, holds that some substance present within the mother's body activates the sebaceous glands of the foetus, and causes the excretion of this material. Naturally after birth, when the maternal contact is removed, the sebaceous glands cease to function, become inconspicuous and lie dormant until puberty. The maturation of the entire body, causing excitation of the hormones and sexual organs at this vital stage, is definitely concerned with the action of the sebaceous glands. Thus is it that the adolescent skin conditions can often be attributed to too rapid sexual growth, which in turn causes increased secretion of the accessory organs. This is seen once again as senility approaches. When the hair begins to fall out, showing that the papillae are no longer able to produce hair, increased activity of the sebaceous glands produces large quantities of sebum, which flakes as it dries, and causes dandruff. Undoubtedly this accounts for the profuse dandruff occurring in most people past middle age.

While all factors, including age, sex, diet, climate and environment, must be considered when a skin condition is observed, the acne of adolescent nature is due in most cases to a faulty lipid metabolism.

Re-adjustment of this metabolism to a more natural basis can be provided by cosmetics made after the pattern of skin fat.

Phenolphthalein Research

A report on the determination of phenolphthalein in various therapeutically active preparations was presented before the midyear meeting of the Scientific Section of the Proprietary Association held at Hotel Biltmore, New York, December 8.

It was pointed out that Polkin's gravimetric determination of phenolphthalein as tetra indo phenolphthalein was not applicable to many of the phenolphthalein preparations studied due to presence of interfering substances.

In establishing a satisfactory gravimetric method of analysis, the gravimetric procedure of Polkin was modified so as to separate the phenolphthalein from strongly icidic and neutral compounds.

POINT OF SALE

Most of the household remedies and toilet goods consumed by families are bought locally, but over 8% of the cosmetics used by women in smaller communities are bought in larger cities. This is one fact shown in a new book, "Traffic Flow and Shopping Habits," just issued by the McCall Corporation and containing the results of two major studies made. Other interesting points brought out are that there is a definite relationship between sales and vehicular traffic flow along highways connecting communities, that worthwhile prospects for advertised goods do not differ according to the size of the community in which they live and that markets are *people*, not places.

Russel Burnet, who conducted researches for Harvard, the Association of National Advertisers, the American Association of Advertising Agencies and the Outdoor Advertising Association, analyzed census figures on sales in Ohio and related the figures to traffic flow in this state.

When the *sales* of commodities other than food in Ohio's cities and towns were translated to a per capita basis, considerable variations were discovered between large and small communities in sales of drug store products, furniture, household equipment and apparel.

Here is the variation between the five groups of communities found in per capita drug store *sales:*

Community of 900,000 population	$14.41
Cities of 100,000 to 499,999	15.53
Cities of 25,000 to 99,999	12.84
Communities of 10,000 to 24,999	11.38
Communities of 2,500 to 9,999	8.45

Taken alone, these census figures on *sales* might indicate that the consumption of drug store products were higher in big cities than in smaller communities. But Mr. Burnet found that the city of purchase is not necessarily the city of *consumption*. Traffic flow from the smaller communities to the bigger cities showed a distinct relationship to the sales of commodities, indicating that families with incomes above the subsistence level were in the habit of traveling as many as 50 miles from home to buy the products they wanted. This study explains why the per capita sales of merchandise, as shown in the Census of Business, are usually smaller in the smaller communities than in the metropolitan centers.

To supplement Mr. Burnet's work, Dr. H. H. Maynard of Ohio State University, made a comprehensive survey of shopping habits in the homes of Logan, Ohio, a typical smaller community, and found that families outside the low-income group had better than average possessions and bought a sizeable quantity of all products. Much of their purchases, however, with the exception of food and other necessities, were bought in Lancaster and Columbus, larger cities, twenty and fifty miles away from Logan.

On the "convenience" items carried by drug stores, Dr. Maynard found little out-of-town buying by Logan families. But on the less frequently bought cosmetics, it was discovered that Logan women did from 7% to 50% of their shopping out-of-town in larger cities, where they thought a wider selection and cheaper prices were available.

Notice that little buying of household remedies is done out of town by Logan families:

Product	*Where Bought*	
	Logan	*Elsewhere*
Cold Remedies	99.3%	.7%
Headache Remedies	97.9%	2.1%
Laxatives	97.2%	2.8%
Sun Burn Remedies	Almost 100.0%	.....
Average	98.6%	1.4%

Considerably more buying of toilet goods is done outside of the home community:

Product	*Where Bought*	
	Logan	*Elsewhere*
Brushes—Hair	80.0%	20.0%
Brushes—Tooth	86.5%	13.5%
Dentifrices	95.9%	4.1%
Mouth Wash	98.2%	1.8%
Misc. Toilet Goods	94.6%	5.4%
Average	95.0%	5.0%

But cosmetics represent the chief item handled by drug stores, where out-of-town buying often assumes real proportions among Logan families:

Product	*Where Bought* Logan	Out-of-Town
Creams, Face	92.1%	7.9%
Deodorants	50.0%	50.0%
Lipsticks	83.9%	16.1%
Nail Polish	75.0%	25.0%
Powders, Face	92.4%	7.6%
Rouge	90.6%	9.4%
Other Cosmetics	92.2%	7.8%
Average	91.6%	8.4%

On the whole, only 2% of the food consumed in Logan is bought outside the town, as compared with 8.4% of cosmetics.

On all merchandise, families with incomes above the subsistence level do most of the out-of-town buying. There is a close parallel between these families and the families who read magazines.

Concluding the new book the McCall Research Department points out:

"The studies in Logan further show that enough of the buying of commodities like cosmetics and toilet goods is done out-of-town, in larger communities, to justify the statement that as a prospect for consumer goods the small-town families are every bit as good as the big-city families.

"These studies show that in effect the whole of the United States is just one big city. A big city is made up of one or more business and shopping centers. Going out from these centers are many homes. Where the shopping center is in the center of many homes, it usually has large stores, because large stores need lots of traffic to support them. Where shopping centers are in the middle of fewer homes, they support only neighborhood stores.

"Yet no one would argue that the homes around a big shopping center were any better than the homes around a smaller shopping center. Wherever there are homes there are people. Wherever there are people there is consumption of goods, without relation to the distance from or nearness to stores.

"As a market the United States is nothing but one big city. It has big business districts where much merchandise is sold. Yet no manufacturer would attempt to buy consumer advertising that circulated only in business districts, because his objective is the *home*, where consumption takes place.

"Look upon the nation as one big city and you'll see many business and shopping districts of varying sizes. Some business districts will contain department stores, specialty shops and every conceivable type of retailing establishments. As these business and shopping districts get smaller, they will contain fewer stores. Descending to small neighborhood business and shopping centers, you'll find only stores that sell necessities and staples that have to be bought in a hurry.

The Benzoates

(*Continued from page 48*)

which is its freedom from the poison, hydrocyanic acid. It is used as a flavoring and perfuming agent. Anthranilic acid, o-aminobenzoic acid, is of importance because its methyl ester is a constituent of oil of orange blossoms and oil of jasmine. This acid finds application in perfumery. Benzyl benzoate, which is made synthetically from benzaldehyde and by other methods has valued uses, aside from its new employment in the treatment of scabies. In its pure form it is a solid, though generally obtained as a colorless oil. It finds application as a solvent for artificial musk and as a fixative for many floral ottos. It is obtained naturally from Tolu and Peru balsams and is found in oils of tuberose, ylang ylang and hyacinth.[17] This benzoate is also employed in confectionery and chewing-gum flavorings.

Saccharin, as a rule, is not thought of as a benzoate but since it is the anhydride of o-sulfamid-benzoic acid it can be so included. Its value as a non-fermenting sweetening agent for many preparations, as well as for diabetics and individuals on slimming diets, is well known. Its other uses however, have not received as much notice. It is given internally in many cases of cystitis to stop the decomposition of the urine. It has some preservative powers, too.

Some of the more important benzoates and their uses, from the viewpoint of their therapeutic, preservative and cosmetic applications, have been considered. It must not be assumed however, that the benzoates' value ends here. Indeed, their use in nearly every branch of synthetic organic chemistry is almost limitless.

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F.T.C. AND ADVERTISING

HARRIS & EWING

FEDERAL TRADE COMMISSION

Left to right: G. S. Ferguson, Jr.; Edwin L. Davis; Chas. H. March, Chairman; R. E. Freer; W. A. Ayres

APPARENTLY if the Federal Trade Commission has its way, advertising will be absolutely truthful. Obvious falsehoods of minor importance are being forced out of advertising as the Commission continues to cite advertisers and give decisions. One such case was that of the publishing firm which sold a long term subscription to the supplements to an encyclopoedia, and offered the encyclopoedia itself free with the subscription to the supplements. While any individual of normal intelligence knew that he was not getting the encyclopoedia free, but was paying for it in the price he paid for the subscription to the supplements, the F. T. C. cited him as advertising falsely.

The case was appealed to the courts, and the U. S. Supreme court found for the Federal Trade Commission, saying in effect that because people knew a thing was false and were not deceived was no reason why the false statement should be allowed. Therefore, free offers are probably completely under ban from now on. If a manufacturer wants to give a product "free" with another product in the future he cannot use the word "free," but still simply have to offer the two products at the price of one. With this decision of the U. S. Supreme Court back of it, the Federal Trade Commission will doubtless crack down on the word "free" wherever it appears, and wise manufacturers and advertising agencies will see that it is not used.

The Federal Trade Commission is now finding in advertisements meanings that were not intended by the advertiser. Take the case of Johnson & Johnson. This company warned consumers against buying and using "unknown" bandages, and other surgical dressings claiming that they are not sterile. Following this advertising, the Food and Drug Administration seized many lots of bandages which the Administration found not to be sterile, and the Federal Trade Commission itself proceeded in some such cases. But then the Federal Trade Commission proceeded against Johnson & Johnson claiming that this firm was advertising in a manner which was unfair and disparaging to competitors. The Commission claimed that merely because a bandage is "unknown," is no reason why it is not a proper bandage. Finally a cease and desist order was issued, which Johnson & Johnson accepted because the firm had never intended to convey this impression. Here a manufacturer had warned against a condition that did exist and which condition was promptly acted upon by government agencies to the public benefit only to find that he himself must take a backstep in order that advertising will be absolutely truthful.

The peculiar part of the cease and desist order against Johnson & Johnson is that the main function of advertising is to get a company or brand known that consumers will gain confidence in the products and will constantly have the names of advertised goods on their minds. The

"unknown" or non-advertised brands are therefore supposed to suffer through not being "known." While this is the natural state of affairs, it is not proper, according to the Federal Trade Commission to state that "unknown" or non-advertised brands are not satisfactory products. The fact of the matter probably is that there are good and bad products among both advertised and non-advertised brands, although the percentage of good products is probably much higher among advertised products than it is among non-advertised products.

Certainly it can be taken as a general rule that advertised products will not continue to be advertised unless they are satisfactory. There may be exceptions to this rule, but they are not many. Further we all know of unadvertised merchandise which is exceedingly high in quality. One of the leading department stores in New York which sells private brand drug products buys many of these products from prominent manufacturers of advertised drug products. In one case this department store bought five different well-known brands of Milk of Magnesia, transferred them to plain bottles identified by numbers and then sent them to a prominent consulting chemist for a report. After obtaining the report which showed one superior to the others in quality, the department store went to the manufacturer of the best product for the supply to be sold over the counter in the store.

In such cases it certainly is unfair to say that because the brand of this store is "unknown", it is not satisfactory. However, there are many drug stores throughout the country who buy low priced goods of "unknown" make to meet price competition. Quite often these goods are of excellent quality, but one can not be as sure of these goods as they are of advertised merchandise. And in the case of bandages, the government proved that large quantities of goods of inferior quality were on the market.

In its effort to protect "unknown" brands against unfairness on the part of advertisers, one must realize that the Federal Trade Commission was established for the regulation of business in the interest of the welfare of the country and to stop the big businesses from crushing the smaller businesses. Also, under the present Federal Administration, the Federal Trade Commission has taken the interest of the average citizen and consumer quite to heart so as to aid in developing the "more abundent life" of which the Federal Administration has spoken so often.

This line of reasoning can be visualized more clearly if one will study the attitude of the Federal Trade Commission regarding the Miller-Tydings Law and the Robinson-Patman Law. The Federal Administration Federal Trade Commission are not favorable to price-fixing as permitted under the state fair trade acts and the Miller-Tydings Law. One of the ways in which these laws can be made of doubtful value to the industry is by increase in the sale of private brand, or "unknown" merchandise. So it is well in line with the basic feelings of the Federal Trade Commission to stop advertisers from in any way injuring the sale of "unknown" products.

The Federal Trade Commission, being a quasi-judicial body must interpret the laws under which they operate in a way that will benefit the greatest number of people and protect the public generally against economic abuses. This is the reason for the Commission's activity on advertising of cosmetics. Here they have taken statements regarding benefits to be derived from cosmetics and have delved into the scientific background with which these statements are supposed to be supported.

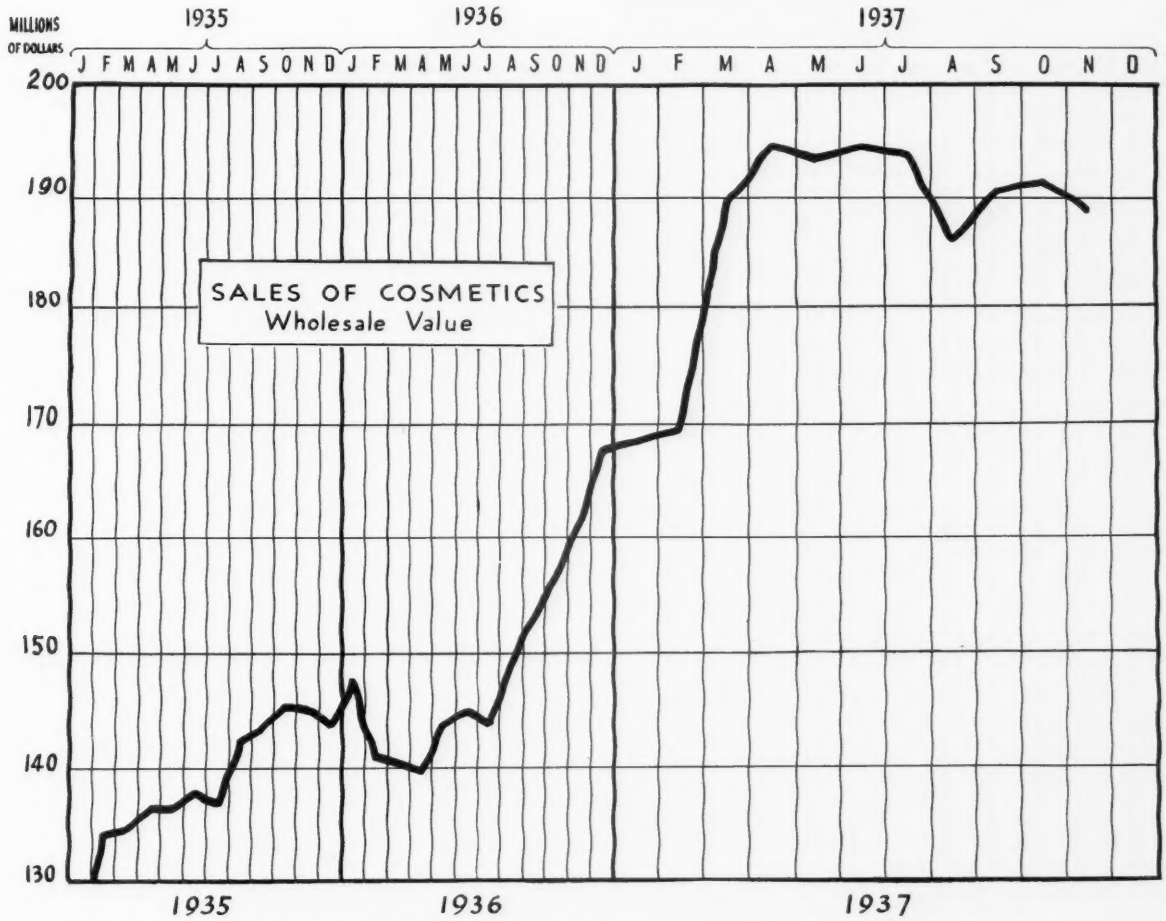
There are many who do not appreciate the job which the Federal Trade Commission is supposed to do, and the manner in which they are setting about accomplishing it. The Federal Trade Commission has made the mistake of trying to accomplish results in an entire industry through the holding of Fair Trade Practices Conferences. These have been farces for the most part. The difficulty with these sessions is that one Commissioner conducts them and he cannot answer for the majority of the five commissioners. Thus the representatives of the industry who are present cannot get direct answers to questions as to what the proposed fair trade practices mean. Further than this the industry is represented only by those who are willing to come to the conference and those present might not be all the factors in the industry. And even if all the factors in the industry were present at the conference, the system of accepting or rejecting rules by majority vote does not mean anything for the reason that the Federal Trade Commission must eventually vote upon the rules, and finally the courts of the land might take an entirely opposite view to that of the Commission.

The Commission can accomplish much more by citing manufacturers and then having the manufacturers carry the case through the courts until a final decision is rendered. Only in this way can the Commission be certain that its decisions are in accordance with the true meaning of the law. An improper viewpoint regarding the facts in any case might bring about an improper decision by the Commission, but these cases would be of minor importance. Such a decision as that in the case of the encyclopoedia being given "free" means that the Commission can be sure of its ground in similar cases and that manufacturers ordered to cease and desist in such instances would be foolish to appeal to the courts for relief from the order.

Another difficulty with the Commission's work is that the five commissioners cannot possibly sit through all the hearings and therefore the hearings must be turned over to examiners. These hearings are also somewhat of a farce since the examiner reads off a prepared list of questions, and the attorney for the defendant reads off a prepared list of answers. Therefore, there are no surprises, and one can get just as far by reading the transcript after the hearing. Furthermore, the hearing does not seem to mean much as the Commission must study the transcript of the hearing and then decide what is to be done.

MERCHANDISING NEWS

THE TREND IN COSMETICS: Although final reports are not yet available, it appears that toilet goods have done comparatively well during Christmas sales. Better grades have been in demand but there seems to have been a let down in the larger sizes of the high priced items.



The wholesale value of toilet preparations sold in the year ended November 1937 was $189,274,000, an increase of 17.2 per cent. over the $161,693,000 in the same period of 1936, but a decline of 1.1 per cent. from the $191,541,000 for the twelve months ended October 1937.

Nothing new seems to have happened in bath cosmetics and promotions during late winter will have to rely upon a further development of the various novelty trends that have shown themselves during the last year. The flower scented colognes, now joined by bouquet scents, will be pushed renewedly but buyers make heroic efforts to keep them separated from the toilet waters and essences in an attempt to build individual markets for each item. Body oils, for which there is a growing demand in the middle priced groups, are finding increasing attention upon the counters and most stores report a well developed interest in body and dusting powders. Color and harmony of scent dominate the selection.

Combination sets of treatments, some running into fairly high figures, have been selling well during the Christmas season and most counters are expected to push them more heavily during the current year.

Manufacturers of nail polishes who have backed the new, more natural shades will have no reason to complain. The new dress colors run to the cerise and the more reddish violets with such shades as rose, raspberry, etc. taking a lead. The natural shades also will go well with the new blues and greens. Metallic sheens remain still a possibility and need watching. They turn up in a number of varieties and may become stronger in Fall.

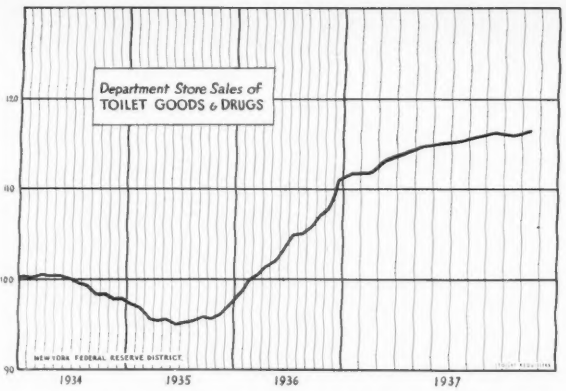
Make-up shades follow the dress fashion and violet tints seem to be in the ascendency.

From the drug stores comes a warning about the efficacy of the several double deals, promoted by certain cosmetic manufacturers. The plan seems to have worked well in the beginning. However, some druggists say that the practice cuts down the sale of the companion article and does not improve the competitive standing of the store in its own locality as these deals are available to all druggists. Some of the deals begin to stick on the shelves. One complaint is that they follow each other too frequently with the adoption of the practice by a larger number of manufacturers.

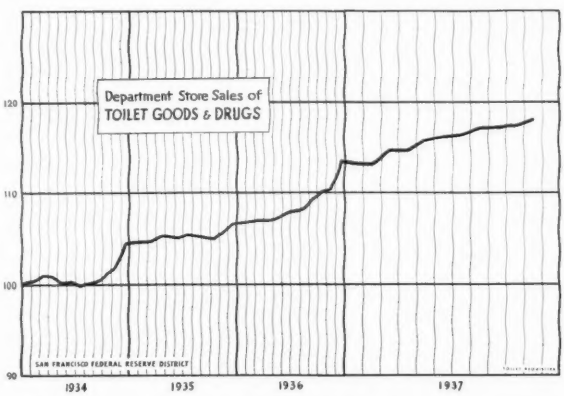
EVALUATING WINDOW DISPLAYS: The report on window display circulation and market coverage, announced in our November issue is now available. Copies may be obtained from National Window Display Research, Association of National Advertisers, 330 West 42 st., New York. The price is $10 per copy.

Four definite conclusions on window-display advertising, given in the report, are: 1, the circulation of window-display advertising can be evaluated by uniform methods; 2, the volume and quality of the circulation in any market can be defined; 3, varying degrees of intensity of circulation can be obtained; 4, the cost of window-display circulation can be determined.

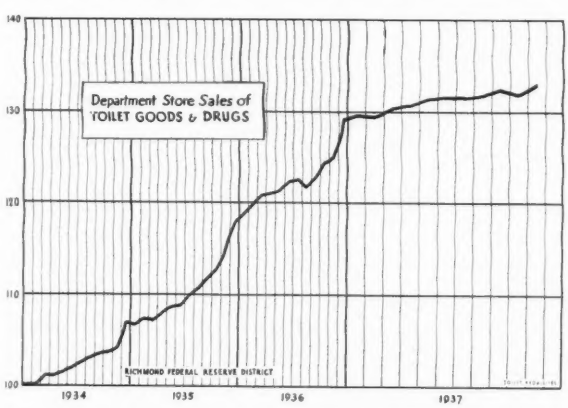
Discovering that the average number of display windows in retail stores of all types average 1.9 a store, the report estimated that there are at least 3,142,525 window-display spaces in the country.



Sales of toilet articles and drugs by department stores in the New York Federal Reserve District were 4.7 per cent. greater in November 1937 than in November of the preceding year. This corresponds to adjusted index numbers of 116.6 for November 1937, 116.1 for October 1937, and 108.1 for November 1936.



Sales of toilet articles and drug sundries in the San Francisco Federal Reserve District were 8 per cent., higher in November 1937 than in the same month of the preceding year, corresponding to adjusted index numbers of 118.2 for November 1937, 117.5 for October 1937, and 110.3 for November 1936. Sales were 7 per cent higher in Los Angeles, 9 per cent. higher in San Francisco, and 19 per cent. greater in the Pacific Northwest.



Sales of toilet articles and preparations in Baltimore increased by 15.4 per cent. in November 1937 over the same month of the preceding year. Washington sales were 6.2 per cent. greater and sales for the Richmond Federal Reserve District were 10.3 per cent. greater than in November 1936.

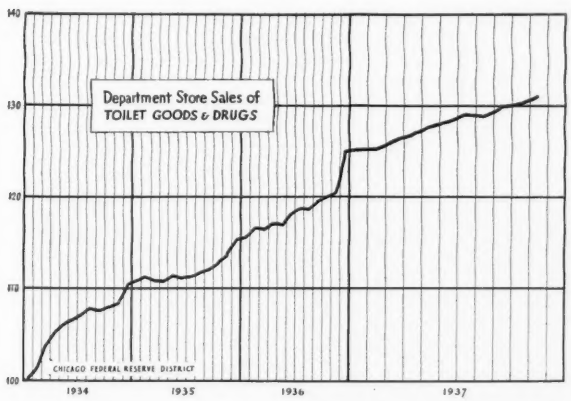
For the district as a whole, adjusted index numbers were 133.0 for November 1937, 131.9 in October 1937 and 124.9 in November 1936.

Depending on the type of market and the intensity of coverage required, the study found that costs per thousand circulation can range anywhere from 16 cents to more than $1. Charts give detailed methods of determining what these costs will be.

In giving theoretical examples of how to determine costs per thousand circulation, the study revealed that for minimum distribution in a town of 2,000, the use of two displays will cost $1.04 per thousand of circulation, and in a large city of 425,000 minimum distribution requires thirty-seven displays, with an actual cost per thousand of circulation of 16.8 cents.

GOLDEN LIPS: This season of glitter in evening fashions has inspired cosmetic manufacturers with many new ideas in make-up. Here is one daring and different—Antoine's Lipstick "D'Or," a lipstick of luminous gold—yes gold and we don't mean the case either! Antoine shows with this new lipstick that gold can be used as a color. It is to be used just like any other lipstick, but more lavishly, or smoothed on top of regular make-up. Its lacquered sheen will add a new note to the almost barbaric brilliance of this season of glitter.

SPECIAL DRENE: A new Special Drene for dry hair has just been placed on the market by Procter & Gamble as a companion product to regular Drene. Simultaneously with the introduction of this Special Drene the first free goods deal ever offered on Drene is being put into effect. For a limited time, one bottle of either Regular Drene or the new Special Drene is offered with 12, when purchased in equal quantities. Starting February 1, probably one of the largest introductory advertising campaigns ever put back of a cosmetic item will publicize both Regular Drene and the new Special Drene for dry hair.



Sales of toilet goods and drugs by department stores in the Chicago Federal Reserve District were 7.9 per cent. greater in November 1937 than in the same month of 1936. This corresponds to adjusted index numbers of 131.0 for November 1937, 130.2 for October 1937, and 120.5 for November 1936.

From a Druggist to a Manufacturer

Dear Friend:

In reply to your request to send a check. I wish to inform you that the present condition of my bank account makes that almost impossible. My shattered financial condition is due to Federal Laws, State Laws, County Laws, City Laws, Liquor Laws, Corporation Laws, Mother-in-Laws, Brother-in-Laws, Sister-in-Laws and Outlaws.

Through these laws I am compelled to pay business tax, amusement tax, head tax, bank tax, school tax, light tax, water tax, sales tax, income tax, food tax, furniture tax, and excise tax. I am required to get business license, truck license, not to mention a marriage license and a dog license.

I am also required to contribute to every society and organization which the genius of man is capable to bringing to life; to the women's relief, the unemployment relief and the gold-diggers relief.

Also to every hospital and charitable institution in the city, including the Red Cross, the Black Cross, the Purple Cross and the Double Cross.

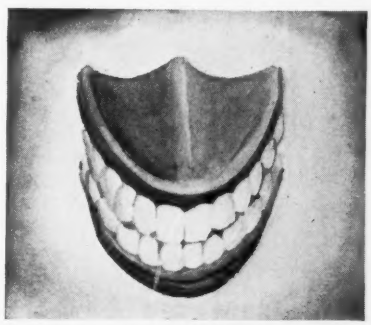
For my own safety, I am requested to carry life insurance, property insurance, liability insurance, burglary insurance, accident insurance, business insurance, earthquake insurance and fire insurance.

My business is so governed that it is no easy matter to find out who owns it. I am expected, inspected, suspected, disrepected, examined, re-examined, informed, required, summoned, fined, commanded and compelled until I provide an inexhaustible supply of money for every known need, desire or hope of the human race.

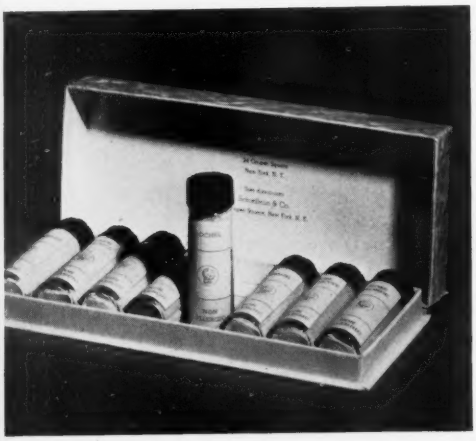
And, simply because I refuse to donate to something or other I am boycotted, talked about, lied about, held up, held down and robbed until I am almost ruined.

I can tell you honestly that only for the miracle that happened, I could not enclose this check. The WOLF that comes to many doors nowadays just had PUPS in my kitchen. I sold them and here is the money.

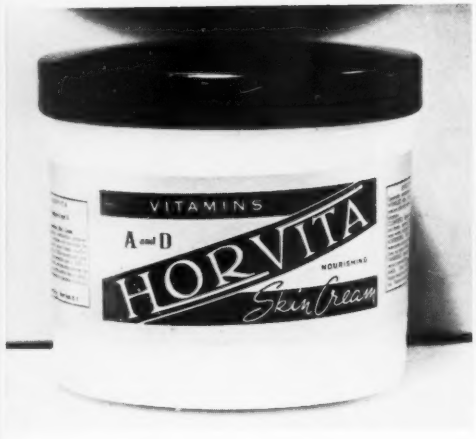
APPROVED BY THE A.M.A.



Bar-Jé



Revlon
Revlon


VITAMINS
A and D
HORVITA
NOURISHING
Skin Cream

INSTANT
CLAIROL
INSTANT
CLAIROL
CLAIROL

SUZANNE LISZT OF VIENNA

A subtle arrangement of colors in molded plastic caps and printed glass containers provides feminine appeal for the cosmetic packages of Suzanne Liszt of Vienna, South Orange, N. J. The predominant color is blue. This color is used in the Armstrong's Artmold (molded plastic) caps.

BAR-JÉ

Bar-Jé's Lipid treatment set consists of two creams. Bar-Jé Lipid cleanser and Lipid cream. It is described as maintaining the lipid principle in both cleansing and nourishing skin.

HUDNUT

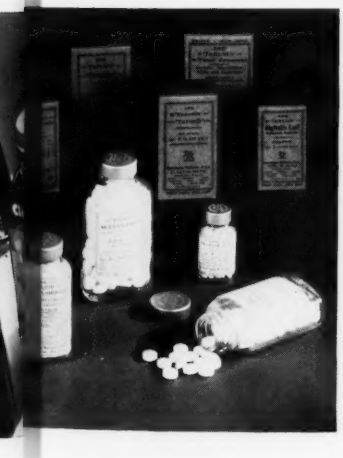
Hudnut's Tenfold perfumes are now exquisitely bottled in a delicate fluted glass column. This package is obtainable in nine fragrances, Jasmin, Narcisse, Soul of the Violet, Gardenia, Lilac, Lily of the Valley, Rose, Yanky Clover and Carnation.

DUART SALES CO.

The Duart Sales Co. Ltd. is offering a new lotion, the formula of which is said to be based on milk-oils. This is the second product produced by Duart containing milk-oils, the first being Creme of Milk face creme. Designs for specially molded bottles were worked out in conjunction with Hazel-Atlas Glass Co. Molded caps by Armstrong Cork Products Co.

KATHLEEN MARY QUINLAN

Kathleen Mary Quinlan's new "under eye pencil" is used to lighten under eye circles and to subdue superficial skin imperfections. It comes in a convenient lipstick case in four shades.



ALMAY PHARMACEUTICAL CORP.

Encased in a distinctive hinged-cover carton, eight Kimble Glass vials of Almay face powder make an appealing display.

These vials were chosen not only for their attractiveness, but to plainly designate the shade of Almay face powder.

VIGNY

Vigny's GolliWogg dusting powder appears in a completely new package which is very similar to the small introductory package in the GolliWogg perfume.

REVLON

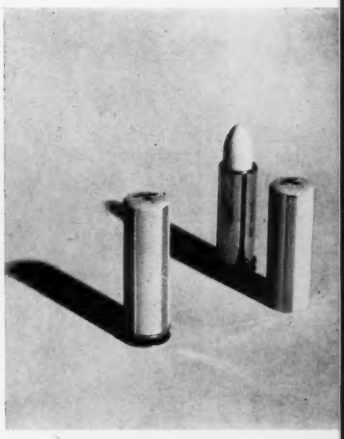
Revlon hand cream, formerly available only in tubes, is now offered in jars. The new container has a gray plastic cap and a gray and blue label of simplicity.

PEROXIDE CHEMICAL CO.

Peroxide Chemical Co.'s "Vi-Jon" brilliantine and witch hazel packages have been embellished with attractive decorated caps.

MALLINCKRODT CHEMICAL WORKS

A rubber gasket, glass or other hard-surface closing disk, employed in conjunction with molded caps has been adopted as standard for its pour-out-lip-finish acid containers by Mallinckrodt Chemical.



HORVITA INC.

HorVita cream is primarily a nourishing cream for tired and wrinkled skin, but because of the combination of ingredients said to be present in this cream, together with Vitamin content.

GUERLAIN

Guerlain's new lipstick case contains the same pomade as the series in chromium cases, and is obtainable in the same shades: light, medium, dark, orange, Tropical and Mandarin. The case is of gold with a burnished silver stripe, and can easily be opened with one hand.

CLAIROL

To discourage salvaging and reuse of their bottles for imitations, the manufacturers of Clairol, a shampoo-oil-tint, have recently adopted a new aluminum tamper-proof seal for their containers.

BURROUGHS WELLCOME & CO.

Burroughs Wellcome & Co., has repackaged its line of compressed products issued under the name "Tabloid" brand. Starting with the original design of the Burroughs Wellcome & Co. containers and employing modifications that are pleasing and practical, Owens-Illinois Glass Co. has given the package a conservative but pleasing touch of modernity.

MIRAMAR TRADING CORP.

Through the Miramar Trading Corp., a division of Conti Products Corp., the Erasmic Old London Lavender line of toiletries, long established in England and on the Continent, is now winning popularity in America.

"NATIONAL" CONTAINER ACHIEVEMENT
is consistently
North East West South

"NATIONAL" Container Service presses forward from and to *all* points of the compass! ★ "NATIONAL" Plants are equipped to match the demands of your Industry. ★ "NATIONAL" Plant locations consolidate for you, the advantages of Container originality, volume output, and open shipping routes by rail, water and truck.

"NATIONAL" SERVICE...To ALL Points!

NATIONAL CAN CORPORATION

SUBSIDIARY OF McKEESPORT TIN PLATE CORPORATION

EXECUTIVE OFFICES • 110 EAST 42nd STREET • NEW YORK CITY

Sales Offices and Plants • NEW YORK CITY • BALTIMORE • MASPETH N Y • CHICAGO • BOSTON • DETROIT • HAMILTON, OHIO

PACKAGING NOTES

GIFT PACKAGING: Helena Rubinstein has a new idea to help put messages across—a surprise package that conveys greetings as part of the gift itself. Madame Rubinstein has encased an array of her perfumes, eau de toilettes, and other accessories in a new "special occasion" package, cleverly designed to hold a greeting card which fits into a frame in the cover so that it forms an integral part of the box. The card slides out and the message can be written thereon, and it is then fitted back into place. There are special occasion packages for birthdays, for holidays, for anniversaries, for every red-letter day—surprise packages for the hostess, bridge parties, and for bon voyage parties. This appears to be a grand idea—it saves the trouble of scouting around for an appropriate card and helps put the message across with a beautiful gift behind it.

BABY COSMETICS: The quest for beauty begins in the cradle these days and isn't confined to just little girls. Cosmetic sets for babies—male and female, seem to hold the spotlight. Helena Rubinstein has created a gift of beauty set for the baby—her Pasteurized milk bath and dusting powder in a special, scientifically approved "baby edition" which is a good answer to the query of what to give for the "blessed event," baby's birthday, etc. The Pasteurized milk bath is said to have been especially processed and delicately perfumed, and is fine in texture. It would appear to be a "natural" for the baby, since it is such fun for the grown-up besides being soothing and beneficial to the skin, and should have an instant appeal for the purchaser looking for something suitable for the infant. These preparations are encased in a gay nursery box with cherub-bubble-cloud design. The Pasteurized milk bath alone, in a streamlined bottle, comes in a similar box. The set is also available in the new Baby Special Occasion box, in pink or blue, with removable greeting card forming part of the cover, on which the name of the giver may be inscribed.

Another example of this trend toward baby cosmetic packages is Harriet Hubbard Ayer's "Wee-Tot" set which comes in baby blue and baby pink for boys and girls. It consists of a special soft and soothing baby cream with a minimum amount of perfume, talcum and a cotton picker. Moulded containers are used for the preparations. The talcum and cotton picker are pro-

Closures

—BY SCOVILL

This photograph gives some idea of the variety of metal closures designed and manufactured by Scovill to special customers' requirements, including Glass Container Association standards. Naturally, it represents only a small number of the types of bottle and jar closures that Scovill is equipped to make.

If you have a closure problem — or one concerned with vanity cases, lipstick containers, mascara boxes or similar containers — it will pay you to take advantage of Scovill's complete manufacturing facilities. A letter to any Scovill office, outlining your requirements, will bring you complete information.

— SCOVILL —

MANUFACTURING COMPANY

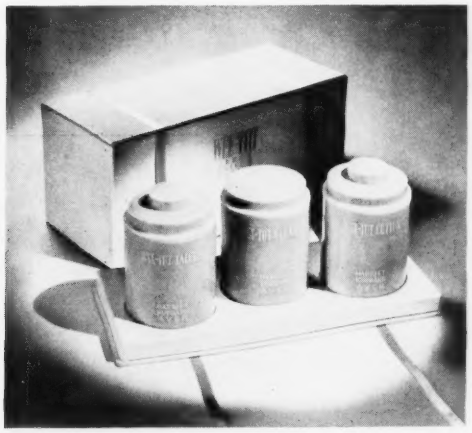
DRUG AND COSMETIC CONTAINER DIVISION

69 MILL STREET WATERBURY, CONN.

Boston • Providence • New York • Philadelphia • Lynchburgh, Va. Syracuse • Detroit • Pittsburgh • Chicago • Cincinnati • San Francisco • Los Angeles IN CANADA: 334 King St., E., Toronto, Ont.

tected by a cellophane cap. The jars come in either a delicate blue or pink and the outer boxes are ivory.

Baby's mother who has hitherto been accustomed to buying these preparations for baby in a more or less



routine way at the drug counter, will appreciate these attractive packages by manufacturers whose beauty preparations she herself uses.

MARKET SELECTIVITY: "Magazine Homes and Branded Merchandise," a study of magazine-reading families as users of nationally advertised products and brands, and comparison with non-magazine homes, has been published by Macfadden Publications, Inc. The study was made to determine the value of magazine reading families as a measure of market selectivity for nationally advertised products. The findings are of particular interest to advertising agencies and national advertisers and copies are available upon request.

SHOWER OIL: Luxuries for glorifying the bath have long been available, but luxuries for the shower have been a bit vague. Many recommendations have been made in the past such as unscrewing the shower head and placing bath salts in it, rubbing bath oil on the body, etc., but along comes a special shower oil created by Prince Matchabelli, Inc., just for these women who lead a time-pressed business or social life and prefer showers to baths. Prince Matchabelli, Inc., says that a recent survey on good looks habits revealed that the proportion of ladies who prefer showers to those who take tub baths was about two to one, and instead of adapting all the tub bath beautifiers to the needs of the shower addicts, Prince Matchabelli believed that the time was right to perfect a preparation for ladies of the standing bath only. This is an emulsified white liquid that is poured over the neck, shoulders, back and arms before the shower water is released. It is said to disappear into the skin immediately, and help to whiten, soften and delicately perfume the body. At the pressure of the water the perfume is released. This preparation doesn't act as a shower oil only, but is recommended by the manufacturer for keeping the legs smooth under sheer stockings and whipping winds, for leaving the hands unsticky when slipping on gloves, and for giving dry, delicate skins a lovely foundation for powder.

SET-UP'S NIGHT AFTER CHRISTMAS: Pinaud's "Set-Up", the first cosmetic for electric shavers, which was introduced last fall and upon which we commented at that time, is starting the New Year with a large advertising and display campaign in an effort to capitalize upon the estimated one million new electric razor users created at Christmas time. Nine national magazines will be used to carry the advertising message while the retail tie-up, to insure display, involves a special deal which includes a display stand and a prize contest for retailers.

Dealers will receive seven bottles of "Set-Up", retailing at $1.00 per bottle, for the price of six. They also receive free a permanent metal display stand holding three bottles. Four loose bottles accompany each display package to dealers to replace those removed from the display.

Backing this offer, Pinaud is giving $100 a week in prizes to dealers writing the most effective 25-word messages on "Set-Up" who also carry the "Set-Up" display.

● GLASS PRODUCTS OF EVERY DESCRIPTION ●

● CAPS ● PERFUME BOTTLES ● PERFUME RODS ● DENTAL & CORN RODS

● PIPETTES ● NAIL POLISH APPLICATORS ● VIALS CAPS AND RODS

DeLuxe Cosmetic Cream Jars

These jars are made of the finest plastic material obtainable, very light in weight, strong and durable in construction. They come in various colors outside and cream color inside. The inside is of fast color and will not run or tint the finest cosmetics or creams.

(Above) Stream Line Flat Opal Jars.

(Right) Vanity Blown Opal Jars

WRITE FOR SAMPLES AND PRICES

Glass PRODUCTS CO.

VINELAND, NEW JERSEY

ATLANTA, GA. Warren M. Curry 2893 Peachtree St.

NEW YORK, N. Y. L. A. Barber 1133 Broadway Room 301

ST. LOUIS, MO. Woodson Barnhart 209 So. Commercial Street

● PIPETTES ● NIPPLE DROPPERS ● BOTTLES ●

DIAFANE

TRANSPARENT
INEXPENSIVE

A Modern Wrap for Drug and Cosmetic Packaging

Diafane is a new transparent wrap, particularly adapted to drug and cosmetic packaging. It is highly moisture-proof, glossy, and is not affected by rapid changes in weather. Diafane may be sealed by heat or glue and works rapidly on standard packaging machinery or by hand. It will save you 40% of the cost of moisture-proof transparent cellulose.

Liberal Samples and Prices Promptly Furnished

Riegel Paper Corporation

342 Madison Avenue, New York, N. Y.

a Year of Accomplishment

★ 1. The largest advertising revenue in six years.

★ 2. The largest number of new accounts in seven years.

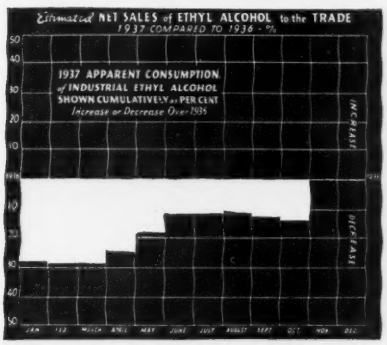
★ 3. The largest increase in circulation of any year in twenty-one years.

During 1937, TOILET REQUISITES fell firmly into its new stride. The industry has sensed and realized a new editorial spirit profoundly changing the appeal and the force of the magazine. This has been reflected in some rather startling ways, in which advertisers have found a value in TOILET REQUISITES beyond any purpose sought before.

ADVERTISEMENT—*This entire page is a paid advertisement.* *Prepared Monthly by the U. S. Industrial Alcohol Co.*

ALCOHOL NEWS

January ★ A Monthly Series of Technical Articles for Chemists and Executives ★ 1938


Estimated NET SALES of ETHYL ALCOHOL to the TRADE
1937 COMPARED TO 1936 - %
1937 APPARENT CONSUMPTION of INDUSTRIAL ETHYL ALCOHOL SHOWN CUMULATIVELY - PER CENT
Increase or Decrease Over 1935
INCREASE
DECREASE

Apparent consumption of industrial ethyl alcohol from Jan. 1 to Oct. 31, 1937, was 49,742,000 wine gallons. This is 12.4 per cent less than during the same period in 1936 when 56,741,000 wine gallons were consumed.

Medicinal Exports In '37 Show 26% Gain over 1936

U. S. exports of medicinals and pharmaceuticals during the first nine months of 1937 were valued at $13,131,000, an increase of 26 per cent over the same period in 1936, according to C. C. Concannon, Chief of the Commerce Department's Chemical Division.

White mineral oil exports increased from $349,600 to $602,700; biologics from $1,659,000 to $1,810,600; non-proprietary preparations from $3,045,500 to $3,906,000; proprietaries from $4,954,000 to $6,403,000 and essential oils from $1,802,500 to $2,021,000, statistics show. A decline in the exports of crude drugs from $1,287,700 to $1,193,000 is said to be due to smaller shipments of ginseng to China.

Use CO_2 Snow as Filter

Carbon dioxide snow is used as the filter in a new method for separating a substance which is liquid at low temperature from one which is not. Advantages claimed are: (1) precipitate does not adhere to porous plate on which CO_2 snow is placed, (2) filtering medium evaporates from precipitate and (3) easily oxidized substances in the filtrate and precipitate are protected by the CO_2 gas.

New Chemical Kits Teach Children Perfume Making

NEW YORK, N. Y.—A perfume chemistry kit recently introduced here is believed to be the first attempt to teach children the fundamentals of the art of perfume manufacture.

Similar to the youngsters' chemical sets now on the market, this kit contains fourteen perfume chemicals: amyl cinnamic aldehyde, benzyl acetate, citronnellol, geraniaol, hydroxycitronellal, terpineol, isobornyl acetate, eugenol, phenyl ethyl alcohol, violet ketone (a mixture of alpha and beta ionones), coumarin, vanillin, heliotropin and musk ketone. It includes, in addition, a supply of alcohol, dye-stuffs, droppers, measuring spoon, stirring rods, storage bottles, blotters for odor testing and a book of instructions.

Everything is provided for the embryo perfumer—ingredients, equipment—even fancy gift bottles for the finished products.

Urge Industrial Alcohol Users To Guard Essential Chemical's Status

Statistics for Fiscal 1936 *Illustrate Diversified Uses*

OVER 100,000,000 GALS. USED

WASHINGTON, D. C.—Industry used the huge total of 109,133,841 wine gallons of Specially Denatured Alcohol in the fiscal year ended June 1936, according to statistics just released by the Treasury Department.

Of this amount, 45,258,065 wine gallons, or nearly 42 per cent was converted as a raw material in chemical manufacturing. Alcohol used in processing industrial, food, drug and other products accounted for the second largest use, 27,124,432 wine gallons, or approximately 25 per cent.

The statistics, the first made available by the present administration, were developed by the department "in connection with special administrative survey designed to simplify the Department's regulations regarding the denaturation of alcohol for special uses."

While they do not parallel previous figures published by the Department for the fiscal years 1928 to 1934, they are intended to show the many uses to which industrial alcohol is currently put.

Uses of specially denatured alcohol,[1] fiscal year ended June 30, 1936

Product or Use	Wine Gal.[2]
Cellulose	4,281,605
Synthetic resins (with or without natural resins but containing cellulose compounds)	455,834
Shellac (containing no cellulose or synthetic resins)	3,410,540
Other natural resins (containing no cellulose, synthetic resin or shellac)	1,120,455
Coatings made exclusively from other materials	38,740
Total lacquers, varnishes and enamels	**9,307,174**

(Continued on next page)

Warn of Attempts to Impose "Unreasonable" Restrictions

J. P. McGOVERN AIDS INDUSTRY

The policies and principles which clearly differentiate the use of ethyl alcohol in industry from the beverage use of various "spirits" and the important role legislation has played in the rapid growth of this essential chemical are emphasized in a two-page article "Three Decades of Industrial Alcohol," published by a leading trade journal in collaboration with Capt. James P. McGovern, General Counsel of the Industrial Alcohol Institute, Inc.

Capt. McGovern is credited with many of the gains recorded by industrial alcohol in attaining its present status. It is pointed out, he is one of the few men still active in the industry who has been through all the changes that have taken place since the passage of the original Denatured Alcohol Act of 1906.

James P. McGovern

"Continued interest and watchfulness" on the part of all concerned are necessary so long as industrial alcohol "remains the target of various special groups with different objects to be served"—the article says.

"There still seems to be a general tendency among legislators to introduce bills that would restrict the manufacture and use of alcohol, at least for certain purposes. The committee (on Industrial Alcohol of the A.C.S.) has previously expressed itself strongly as opposed to

(Continued on next page)

REPLICA OF FILLING STATION:- several hundred anti-freeze distributors attending the mammoth Automotive Service Industries Show held at the Navy Pier, Chicago, December 6 to 11, visited with U.S.I. sales executives at the novel SUPER PYRO exhibit shown above. Said to be one of the most original displays of the 350 manufacturers exhibiting, the U.S.I. booth features the wide scope of its dealer, distributor, and consumer advertising campaigns for 1937.

ADVERTISEMENT—*This entire page is a paid advertisement.*

January ★ **ALCOHOL NEWS** ★ 1938

Urge Alcohol Users To Guard Chemical's Status

(Continued from previous page)

any legislation that would define a well-known and important chemical material like ethyl alcohol in terms limiting it to any single source, and, feeling that the principle involved is one vital to the chemical industry, voices continued opposition to any attempt to impose such unreasonable restrictions."

"The privileges extended to alcohol have been conferred, not because alcohol is alcohol with all the meritorious claims attached to it, but because of the uses to which it is put."

"Industrial Alcohol, therefore, must have a continued interest and watchfulness on the part of all concerned with its use as a raw material. Without such vigilance and constructive cooperation results will be negligible if not detrimental."

The article concludes as follows: "The term 'industry' connotes 'useful labor in general.' So let industrial alcohol, ethyl and denatured, continue to perform its useful functions free from unnecessary burdens and restrictions. If this is done, its place in the great industrial world will be secure."

Reprints of this highly informative article may be secured by writing U.S.I.

CORRECTION—In the table of evaporation losses in the December ALCOHOL NEWS, loss for Pulp and Vinyl Resin (B) should have been 0.003%.

Germany Adopts Apple Pectin In Medicinals

The use of apple pomace pectin as a medicinal is becoming increasingly important in Germany, particularly to arrest hemorrhages and as a remedy for intestinal ailments, according to reports reaching the Commerce Department's Chemical Division from Frankfort-on-Main.

While pectin preparations for medicinal purposes are now generally on sale throughout Germany and are increasingly recommended by the medical profession for treating various kinds of maladies, no data are available regarding the scope of the trade in such preparations, it is stated.

One leading preparation is said to be used widely for arresting bleeding, while another more specialized product is intended for treating diseases and infections of the intestines, according to the report.

Tobacco Treatment

LONDON, England.—Treatment of tobacco leaves with ethylene gas to reduce curing time and improve flavor and aroma has been suggested by the Agricultural Adviser to the Colonial Office. Ethylene gas stimulates the enzyme action in the curing of tobacco, it is claimed. U.S.I. is a producer of ethylene gas.

Uses of specially denatured alcohol,[1] fiscal year ended June 30, 1936

(Continued from previous page)

Product or Use	Wine Gal.[2]
Cellulose compounds	4,744,577
All other plastics	722,270
Total plastics	**5,466,847**
Photographic film	1,221,384
Explosives	411,562
Polishes	254,345
Adhesives	211,516
Soldering flux	122,787
Inks, stains, and dye solutions	108,864
Miscellaneous cellulose or resin solutions	41,651
Total cellulose, resin, etc.	**17,146,130**
Proprietary solvents	9,212,266
Other industrial thinners	1,344,463
Total solvents and thinners	**10,556,729**
Dehydrated nitrocellulose	10,805,203
Petroleum oils	2,744,932
Pectin	4,717,550
Other food products	255,145
Drug products	5,281,064
Sodium hydrosulphite	909,592
Dyes and intermediates	561,017
Other chemicals[3]	1,462,122
Miscellaneous products	387,807
Total processing industrial, food, drug, etc.	**27,124,432**
Hair and scalp preparations	906,288
Shampoos	161,653
Bay rum	256,354
Other face and hand lotions	452,127
Toilet waters	545,547
Perfume and perfume tinctures	173,749
Toilet soaps (including shaving cream)	102,837
Mouth washes	645,009
Tooth pastes and powders	61,360
Total toilet preparations	**3,304,924**
Products manufactured in accordance with formulae of the U.S. Pharmacopoeia or National Formulary	254,021
Tincture of iodine	80,306
Rubbing alcohol	2,851,727
Other preparations for external use not listed in the U. S. P. or N. F.	191,455
Total pharmaceutical products	**3,377,509**
Tobacco sprays and flavors	1,451,082
Cleaning preparations (including cleaning operations)	263,779
Deodorant sprays (non-body)	78,237
Disinfectants, insecticides, etc.	37,201
Embalming fluids	31,350
Sterilizing and preserving solutions	25,505
Industrial soaps	11,095
Total cleaning, preserving and flavoring solutions	**1,898,249**
Vinegar	5,789,043
Ethyl acetate	6,957,907
Ethyl chloride	5,975,198
Other ethyl esters	553,191
Dyes and intermediates	644,555
Aldehydes	16,650,777
Ethyl ether (sulphuric ether)	658,990
Other ethers	6,256,479
Ethylene dibromide	436,602
Ethylene gas	420,847
Xanthates	307,683
Acetone	278,377
Fulminate of mercury	166,634
Miscellaneous	161,782
Total converted in chemical manufacturing	**45,258,065**
Brake fluids	233,130
Cutting oils	22,228
Other fluid uses (including door checks)	33,551
Total fluid uses	**288,909**
Fuels	67,275
Laboratory and experimental uses	111,619
GRAND TOTAL	**109,133,841**

[1] Includes specially denatured rum.
[2] Includes amounts re-used after recovery where the alcohol has not become a part of the finished product.
[3] Includes the use by one manufacturer in the production of a denaturant for completely denatured alcohol.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U. S. I.

A new heat-resisting aluminum finish will withstand temperatures up to 1900 deg. F. without discoloration, blistering, etc., the manufacturer states. The material can be held over an open flame a few minutes after applying by brush or spray, it is claimed. **(No. 51a)**

U S I

A red dye, recently introduced, is reported to be finding favor among manufacturers of permanent wave solutions. It is described as a sodium salt of sulfo-di-o-tolydiamino-o-carboxy-phenyl-xanthenyl which is readily soluble in water or soluble in alcohol with a distinctive violet red color. **(No. 52a)**

U S I

A small three-roll ointment mill now on the market should interest chemists, small-plant men and lipstick manufacturers. It is claimed the mill will handle as little as a gram without waste and as much as 100 grams per minute. **(No. 53a)**

U S I

Glass, bacteria-proof filters announced recently have pore diameters from 1.0 to 1.5 microns, which are said to be dense enough to retain most bacteria and yield sterile filtrates directly. **(No. 54a)**

U S I

Wrappings can be made moisture- and vapor-proof according to the developers of a new tasteless and odorless rubber coating. A light amber resin derived synthetically from pale crepe rubber is applied to glassine or any other paper by dip or roller coating and can be made to heat seal if desired, the announcement states. **(No. 55a)**

U S I

A waterproofing agent for animal, vegetable and artificial fibers which is said to give a soft feel to the waterproofed fabric is now on the market. **(No. 56a)**

U S I

Special lacquer for shoe soles is said to reduce costs and speed production by eliminating the need for buffing prior to application. The lacquer is applied to the bottom of the sole by spraying and is available in clear and black with dull, medium, and high gloss. **(No. 57a)**

U S I

A sprayable corrosion-resistant plastic has been developed to delay the damage to concrete, steel and wooden structures and equipment by corrosion, erosion, electrolysis, etc. According to the manufacturer, the material bonds to the base material and can be pigmented to practically any color or shade. **(No. 58a)**

U S I

Sealing material in paste form for sealing threaded and gasket pipe connections is now on the market. It is reported as a combination of oils and pigments which does not include lead. **(No. 59a)**

U S I

Water-white polystyrene molding material is said to have excellent eectrical characteristics and to resist concentrated sulphuric acid and concentrated alkalies. It is strong and light, and can be softened and distorted at high temperatures, the manufacturer claims. **(No. 60a)**

U.S. INDUSTRIAL ALCOHOL CO.

WORLD'S LARGEST PRODUCERS OF INDUSTRIAL ALCOHOL

ETHYL ALCOHOL

SPECIALLY DENATURED-*All Formulas* • COMPLETELY DENATURED-*All Formulas* • ANHYDROUS-*Denatured* • ABSOLUTE-*Pure*

SOLOX-*The General Solvent* • U. S. I. DENATURED ALCOHOL • SUPER PYRO *Anti-Freeze*

PURE (190 PROOF) TAX PAID—TAX FREE

U. S. I.—U. S. P.-*Ethyl* • WEBB'S-*Ethyl*

Executive Offices: 60 East 42nd Street, New York, N. Y. Branches in all Principal Cities.

NEWS

People

Poses to Visit D'Orsay Factory

J. I. Poses, president of the D'Orsay Sales Corp., New York, plans to sail for Europe on the Ile de France on January 15. Mr. Poses will visit the D'Orsay factory in Paris, during which time new perfume presentations will be discussed and plans made for 1938 promotional and advertising campaigns. Mr. Poses will return to New York about the middle of February.

Montgomery Advanced by Fritzsche

John H. Montgomery, formerly assistant secretary of Fritzsche Bros., Inc., New York, has been made secretary and a director of the company, succeeding the late Arthur D. Armstrong. He is a graduate of Cornell and was for several years associated with Antoine Chiris Co., during part of the time as vice-president. In 1918 while still connected with Chiris, he helped to organize Capes Viscose, Inc. and supervised the building of the first viscose bottle cap factory in this country. For several years, he served as vice-president and general manager of Capes Viscose, Inc.

In 1925, Mr. Montgomery joined Fritzsche Bros., Inc., becoming assistant secretary in 1930.

Robertson Heads Virginia Gray

G. Gray Robertson is the president of a new company, Virginia Gray Co., Inc., Lynchburg, Va., which will manufacture and sell cosmetics and household products.

Block Joins Shapiro

Frank D. Block, formerly connected with Schieffelin & Co., has been made sales manager of Ira J. Shapiro Co., Inc., wholesale druggists, New York.

Harker Marries

Harvey M. Harker, assistant general manager of sales of Monsanto Chemical Co., St. Louis, was married in Dallas, Texas, on Thanksgiving day.

D. & O. Names Homan Sales Mgr.

Charles O. Homan has been appointed sales manager of Dodge & Olcott Co., New York. He has been associated with the company since 1907 and for the past nineteen years as a salesman he has travelled

CHARLES O. HOMAN

extensively, principally in the East where he is one of the best known men in the essential oil trade. Mr. Homan is a special deputy sheriff of Suffolk County, N. Y., and his secret ambition is to become mayor of Amityville, L. I.

Piret Joins Crookes

Adam Paul Piret has resigned as advertising manager of Winthrop Chemical Co., New York, to assume charge of sales and advertising of Crookes Laboratories, Inc., that city. Mr. Piret had been associated with Winthrop Chemical Co. for nine years, for the last six as advertising manager. His medical advertising for Winthrop has received awards from the Direct Mail Association for the last four years. He will be succeeded by Walter J. Cook who has been assistant advertising manager for Winthrop.

Hobein Arrival

Robert Hobein of Ungerer & Co., New York, has reported the birth of a daughter on December 28.

DeSaxe on Grove Board

At a meeting of the board of directors of Grove Laboratories, Inc., St. Louis, J. R. DeSaxe, vice-president of the company, and James H. Grove, grandson of the founder, were elected mambers of the board.

George Resigns from Packer

At a meeting of the board of directors of Packers Tar Soap, Inc., held November 30, the resignation of A. W. George, vice-president, assistant treasurer and a director, was accepted. Mr. George had been associated with the company for more than forty years.

Keith Fraser's Daughter

Keith Fraser of *Manufacturing Perfumer*, London, tells us that a baby girl arrived in his family in time for Christmas. As we recall, this is the first. Keith is looking for a Scotch flavored name with Janet or Janice preferred. Maybe it isn't too late now for helpful suggestions.

LaRue to Marry

The engagement of Irving B. LaRue, Jr., and Shirley Audrey Lucas of Detroit has been announced. The wedding will take place in the spring. Mr. LaRue is Detroit representative of Magnus, Mabee & Reynard, Inc., New York.

Chase Named by Carleton & Hovey

Kenneth N. Chase, formerly associated with the Vick Chemical Co. and the Bayer Co., has been made sales manager of the Carleton & Hovey Co., Lowell, Mass.

Goodman Gives More Courses

During the spring term which begins February 17 at Brooklyn College of Pharmacy, Dr. Herman Goodman will give two courses in cosmetology which are completely independent of the courses which he has given in the semester which is now closing.

'38 LOOK TOUGH?

Remember this— PACKAGES BY RITCHIE ARE PACKAGES THAT SELL!

This year your product is more "on its own" than ever. This year, more than ever, it needs all the *planned appeal* of a Package by Ritchie – *display value* that wins dealer cooperation – *design distinction* that wins consumer preference – *economy* that wins enthusiastic approval all down the line!

XMAS WAS MADE ESPECIALLY MERRY for the manufacturers of these products. On the left, a handsome setting for some famous cosmetics. On the right, a brand new packaging-merchandising idea for hosiery. Created by Ritchie, both of these outstanding package successes have the familiar Ritchie characteristic of *looking* far more expensive than they actually are.

This is the beginning of Ritchie's 72nd year of designing and manufacturing packages for almost every type of product. Isn't this a good time for you to investigate the many advantages of a Package by Ritchie? Write for complete information about the free design service offered responsible manufacturers

PACKAGE OCCUPIES NEW PLACE IN MERCHANDISING PICTURE AS RESULT OF RECENT TRADE ACTS

With recent trade laws making it prohibitively costly to give "advertising allowances" for retail display space, merchandising experts are placing new emphasis on package design as a means of obtaining counter and window display free. Consumer objection to higher prices make the adoption of a reasonably priced package important, it is also pointed out.

Set-up Paper Boxes — Fibre Cans

W. C. RITCHIE AND COMPANY • 8847 BALTIMORE AVENUE • CHICAGO

NEW YORK DETROIT CINCINNATI LOS ANGELES ST. LOUIS ST. PAUL DENVER

Dr. Guenther Returns

Dr. Ernest S. Guenther, chief research chemist of Fritzsche Brothers, Inc., returned to New York, December 22 after an absence of eight months during which time he stopped at the company's plant in Seillans, France, visited several other European countries and made two extensive journeys to western and eastern Africa. During this trip he covered nearly 30,000 miles, half of which he traversed by air.

Dr. Guenther left New York in May going first to Seillans to supervise production of natural flower oils and to oversee construction of the additions being made to the company's plant. Early in June he was joined by Ben F. Zimmer, vice-president, and together they drove through Switzerland, Germany and Italy, thence back to Seillans.

In early July Dr. Guenther sailed for French Guinea going to the principal centers of sweet orange oil production around Mamou and Labe in the Fouta-Djallon. He then went into the interior of Morocco, through the Riff and Atlas Mountains and a part of the bordering Sahara Desert, visiting Morocco's new and intensely interesting essential oil developments where thyme, pennyroyal, origanum, myrtle and rosemary are being cultivated on an increasingly large scale. From Morocco he crossed Algiers and returned to the Fritzsche plant in Seillans in time to supervise production of the annual jasmine crop.

Early in September, Dr. Guenther commenced the second portion of his journey which was to cover the important essential oil developments in eastern Africa. He flew from Marseille to Nakuru, and journeyed to Njoro for an investigation of the production of geranium oils, mahwa (a type of Geranium) and the recently developed lavender plantations. From there he traveled to Zanzibar to investigate the clove situation.

The next stop was at the Comoro Islands, several weeks being spent at Nossi-be making a survey on this island and neighboring parts of Madagascar of the production of oil of ylang-ylang, lemongrass, pepper and vanilla. From Nossi-be he travelled by steamer to Tamatave on the eastern coast of Madagascar. Next he reached Fenerive and made a study of clove and cinnamon production. Dr. Guenther then embarked for Reunion Island to survey geranium, vetiver and ylang-ylang oil production. From Reunion he commenced the return trip, reaching Zanzibar by steamer and going from there back to Southern France, by continuous flight via Imperial Airways.

Arriving at Seillans after many thousands of miles of hazardous travel, Dr. Guenther was approaching the factory when his car suddenly skidded on the wet roadway and crashed into a tree. It was completely demolished and Dr. Guenther was badly cut about the face and throat and received a slight fracture of the sternum. After several weeks recuperating, two of which were spent in the hospital, he reembarked for New York, arriving December 22.

Dr. Guenther was impressed by the new essential oil industry which is being fostered in Morocco. This is favored at present by the Civil War in Spain, by extremely low labor costs in Morocco and by climatic conditions ideally suited to the development of many important essential oils. The Berbers, who provide much of the cheap labor, possess unusual intelligence and tremendous capacity for long hours and hard work. Also, new and splendid roads have aided tremendously in this development.

DR. GUENTHER
Outside of hotel in Zanzibar

The situation with regard to clove oil in Zanzibar is still very complicated. The Government has enacted rigid regulations in regard to ownership, standardization and export of clove. While this has tended to bring about a much needed stabilization of prices, it has also aroused the ire of the Indian intermediaries who are now attempting to boycott Zanzibar cloves. Contrasted with this, the clove industry in Madagascar is not sufficiently organized to give buyers guarantees in regard to quality and especially moisture content of the dried clove bud.

During his visit to the beautiful Island of Reunion, Dr. Guenther was struck by the primitiveness of geranium production and by the poverty of the white people whose forebears settled on this Island more than two-hundred years ago and who still cling to their ancient traditions and customs.

Wafer Recovers from Operation

Joseph Wafer of Industrial Chemical Sales who underwent a serious operation which has kept him in the hospital for over a month is now well on the road to recovery.

Lemmermeyer Loses Appendix

M. Lemmermeyer, president of Aromatic Products, Inc., was operated on for appendicitis December 18. He was well enough to return to his home on December 30.

J. L. Hopkins Recovers

Word has been received that J. L. Hopkins, founder and president of J. L. Hopkins & Co., New York, who has been confined to his home with a very severe case of influenza and grippe, is now on the mend

Huisking to Europe

Charles L. Huisking, president of Charles L. Huisking & Co. sailed from New York January 4 for his annual visit to the foreign markets. In London he will make his headquarters with Wheeler & Huisking. In Norway, he will confer with his principal, the Peder Devold Oil Co.

Crum Succeeds Hammersley

W. B. Swindell Jr., President of Swindell Brothers Inc., Baltimore, has announced that Harry Crum will take over the duties of the late W. Herbert Hammersley.

Dinner Given to Kirschenmann

Rose C. Kirschenmann, secretary and assistant treasurer of G. S. Stoddard & Co., Inc., New York, was given a testimonial dinner at the Astor Hotel, that city, December 3. The occasion was the twenty-fifth anniversary of Miss Kirschenmann's association with the company.

Stock Exchange Appoints Conway

Carle C. Conway, chairman of the board of Continental Can Co., has been appointed by Charles R. Gay president of the

CARLE C. CONWAY

Stock Exchange, to serve as chairman of the committee for study of the organization and administration of the Stock Exchange.

Barker Expands Duties

Merle T. Barker, president of the Alkalol Co., Inc., has become treasurer and general manager of the company succeeding James P. Whitters who died recently.

33

WAKE UP!

Animals trained and photographed by Harry Whittier Frees.

Ask about the popular O-I Classic Oblong (Design patent No. 94824)—a real sales builder, with either Caseal or O-I molded cap.

THE O-I SALESMAN WANTS TO TELL YOU HOW TO INCREASE YOUR SALES WITH AN O-I *Salespackage*"

YES SIR, the O-I Salesman has some mighty interesting facts to tell you about *Sales*packages—and how they put life into lagging sales! From the moment the retail clerk unpacks your merchandise—until the customer has completely used your product—O-I *Sales*packages build business and goodwill. The retailer knows that smart packages sell goods—so he gives *Sales*packages preferred display positions. This smart appearance of a *Sales*package stops customers—and makes sales! Come to *Sales*package Headquarters with your glass container, closure, label and carton problems. Owens-Illinois Glass Company... Toledo, Ohio... Branch offices in most principal cities.

OWENS-ILLINOIS GLASS COMPANY

"First in Glass"

McAdie Appointed Sales Manager

William McAdie has been appointed sales manager of Parfumerie De Raymond, Inc., New York. Mr. McAdie has been associated with Parfumerie De Raymond for the last eight years during which he represented the firm in New England, New York State and Pennsylvania. He is well known to the toilet goods trade, having been connected with it for over twenty years. Prior to his connection with Parfumerie De Raymond, he was associated with Guy T. Gibson.

Shriver Appoints Clark

John H. Clark, Jr., has been appointed sales manager of T. Shriver & Co., Harrison, N. J., succeeding the late Robert E. Perry. For the past twelve years he has been assistant sales manager.

Jergens-Woodbury Appoints Hewitt

John S. Hewitt has been appointed general sales manager of Jergens-Woodbury Sales Corp., Cincinnati.

Clare Killeen Marries

The marriage of Miss Clare Killeen, daughter of Mr. and Mrs. Edward V. Killeen of Brooklyn to William Hamilton Sullivan, son of Frederick B. Sullivan, of Brooklyn and Allenhurst, N. J., and the late Mrs. Sullivan, took place January 5 in St. Patrick's Cathedral, New York. The ceremony was performed by Cardinal Hayes who was a boyhood friend of the bride's father, Edward V. Killeen. Mr. Killeen is the president of George Luebers & Co., New York.

Morris Appointed by Frostilla

The Frostilla Co., Elmira, N. Y., has appointed Ralph Morris mid-western district manager and R. W. Pike, western district manager.

Dowling Advanced by Warner

V. C. Dowling has been made general manager of Wm. R. Warner & Co. and Richard Hudnut Ltd., Toronto. He has been with the organization for the past fifteen years.

Companies

Glazo Separated from Warren

Louis W. Halk, for some time vice-president of Northam Warren Corp. is the president of a new firm, known as Glazo, Inc., which has acquired the Glazo manicure preparations and the Elcaya toilet article lines from the Northam Warren Corp.

Continental Increases Goodwin's Duties

H. A. Goodwin, advertising manager of Continental Can Co., has also been placed in charge of the newly created Market Research and Development departments. He will continue to make his headquarters in New York City.

Schering to Build New Plant

The Schering Corp., Bloomfield, N. J., has acquired a 21 acre tract of land in Union, N. J. on which a plant will be erected.

Gilruth Appointed by Penick

S. B. Penick & Co., New York, has announced the appointment of Donald Gilruth as manager of the foreign trade department of the company. Mr. Gilruth has had a long and successful experience in foreign trade and for the past seventeen years has lived and traveled extensively in Europe, the Orient, Africa, Australia, New

DONALD GILRUTH

Zealand and Latin America. His intimate knowledge of those countries, their inhabitants, customs and trade requirements is equalled by few export executives and will be very helpful in extending further Penick's broad international relationships.

Mr. Gilruth was born in Scotland and educated there and in France and England. He is an accomplished linguist and made a distinguished military record during the War.

Givaudan Sales Meeting

The annual sales meeting of Givaudan-Delawanna, Inc., was held at the New York offices, 80 Fifth Ave., January 5, 6 and 7. The company salesmen and the officers from the factory attended the meeting and were welcomed at the first session by Dr. Eric C. Kunz, vice-president and executive manager of the company.

The convention was a fine opportunity for the members of the organization to become better acquainted with each other. At the meetings at which plans for 1938 were fully discussed, Ralph M. Stevenson, sales manager, presided.

Elmo Appointments

William R. Kerner, sales manager of the Elmo Sales Corp., Philadelphia, announces the appointment effective January 2, of Joseph V. Gartlan as New York district manager, Mr. Gartlan was formerly connected with Harriet Hubbard Ayer, Inc., and is well known to the trade in Metropolitan New York through his many years' association with it.

William F. Moran has been appointed Philadelphia district manager. His territory will include Philadelphia, Baltimore, Washington, D. C., Virginia, and Southern New Jersey. Mr. Moran was formerly connected with Dorothy Gray, Inc.

Ungerer Sales Meeting

Ungerer & Co. held its annual sales convention in New York, December 16-18. The salesmen from the territories had an opportunity to meet each other and the members of the New York staff and sales policy and plans for the new year were fully discussed. At a dinner held at the Manhattan Club Fred H. Ungerer, president and Ivon Budd, vice-president and sales manager, were the speakers.

Stevenson Returns to Detroit

R. M. Stevenson, sales manager of Givaudan-Delawanna, Inc., has been granted a leave of absence effective about February 1st, and will spend most of his time in Detroit in connection with the manufacturers agency business there which during his absence for the past two years has been in charge of John K. Stevenson.

Mr. Stevenson represents the following well-known firms in the drug and chemical line—Givaudan-Delawanna, Inc., R. J. Prentiss & Co. and the White Metal Manufacturing Co.

In addition, arrangements have been concluded with the Pennsylvania Refining Co., of Butler, Pa., to represent them in the Michigan territory covering white oils, petrolatum and Insecti-Sol, their new odorless insecticide base. Additional non-conflicting lines in the chemical and allied fields are under consideration. Warehouse facilities will be established in Detroit to carry stocks for local distribution.

Prentiss Acquires Sherwood Insecticides

R. J. Prentiss & Co. has acquired the insecticide business, including the insecticide concentrate plant of Sherwood Petroleum Co. The Sherwood Company continues in the business of petrolatum, mineral oils and related products. William F. Kroneman, formerly with Sherwood Petroleum Co. is now associated with R. J. Prentiss & Co. Mr. Kroneman has had twenty-five years in the drug and oil business, the last twelve of which were spent with Sherwood. While with Sherwood, Mr. Kroneman specialized in insecticides.

MORE COLORFUL CARTONS WITH NEW RIDGELO CLAY COATED TINTS

A spectacular addition to the Ridgelo boxboard line of white, and standard colors, 8 new Skytints — the result of months of research covering boxboard color sales —designers' preferences—practical printing requirements. Selected because they are the essence of experience in sales, in colors, in printing, in consumer choice. Each of the Skytints is non-fading, commercially fast-to-light for durable display, and uniform cartons. Folding boxes developed from Skytints are easily identified. Because they are original, tested colors, they will appeal favorably to purchasers. All 8 tints are light enough to be used with harmonizing or contrasting inks to produce effective carton designs with a minimum of press impressions. They are economical, too, because the tints are stocked ready for shipment in sheets 28x44, .016. India, Beige, Sea Foam, Grey, Tea Rose, Ivory, Azure and Peach.

Ridgelo
CLAY COATED

Send now for a sample book showing each of the 8 Skytints, printed with proved inks to give actual carton color plans

RIDGELO—"THE BEST KNOWN NAME IN BOXBOARD"

MADE AT RIDGEFIELD, N. J. BY LOWE PAPER COMPANY

Representatives E C Collins, Baltimore • Bradner Smith and Company and Mac Sim Bar Paper Company, Chicago • H B Royce, Detroit
Blake, Moffit & Towne and Zellerbach Paper Company, Pacific Coast • A E Kellogg, St Louis • W P Bennett & Son, Toronto

Noxzema's 1937 Merry-Go-Round

Noxzema Chemical Co. has issued a very amusing booklet, "Noxzema's 1937 Merry-Go-Round" to celebrate its twentieth anniversary. On the cover of the booklet is a very gaily colored merry-go-round. Photographs of the heads of members of the organization have been used for the heads of the figures on it. The story of the early struggles of the company and its steady progress is humorously told. Copies are available upon request.

Koster-Keunen Increases Capacity

The capacity of the Koster Keunen plant at Sayville, L. I., has been enlarged so that it now has a sun bleaching capacity of 100,000 pounds of beeswax, which is said to make it the largest plant of its kind in the world.

Lentheric Trip

W. D. Canaday, vice-president in charge of sales of Lentheric, Inc., New York, has announced the second annual Lentheric Grand Prix trip for all sales representatives and traveling representatives who attained their grand prize quota in addition to their regular quota for the year. By virtue of this extra sales achievement, not only the entire sales personnel of Lentheric was included on the tour, but wives were also included, bringing the number in the party to forty people. Passages were booked on the S. S. Orizaba which sailed for Mexico via Havana on December 31, returning on January 16th. All varieties of sight-seeing tours have been planned in and around Mexico City—Chapultepec Park, Cathedral, National Palace, Museum, the native markets, Desert of the Lions, Pyramids of San Juan Teotihuacan, the Floating Gardens, etc. Even a bull fight is included on the program. A second stop-over on the way back will be made in Havana, providing an opportunity to see more of this cosmopolitan city.

Bristol-Myers 50th Anniversary

Bristol-Myers Co., Hillside, N. J., celebrated its fiftieth anniversary on December 13. The company was founded December 13, 1887, as the Clinton Pharmaceutical Co., by John Myers, William Bristol, John Clark and Lafayette Moore.

Merck Retirement Plan

George W. Merck, president of Merck & Co., Inc., Rahway, N. J., has announced that, effective January 1, the company put into effect a plan for retirement income for its employees which combines the insurance benefits of the federal social security act with a form of participation in the profits of the company.

The plan divides itself into two parts: Future service retirement income to the cost of which the company contributes on an equal basis with the employee and supplemental retirement income which the company hopes to provide from time to time without cost to the employee.

The entire cost of the supplemental retirement income will be borne by Merck & Co., Inc. which will appropriate each year in which dividends in excess of one dollar per share are paid on the common stock of the company a sum per share equal to one-third of the amount by which such dividends exceed one dollar per share.

Penick Acquires New Plant

S. B. Penick & Co. has bought in Lyndhurst, N. J., ten acres of land on which are ten one story fireproof, brick and concrete buildings with a total floor space of nearly 100,000 square feet. Concentration of manufacturing operations on the new location, which contains ample space for expansion, will take place in the very near future. The property is on the Delaware, Lackawanna & Western railroad nine miles from New York and is convenient to the Hudson and Lincoln tunnels.

Schieffelin Buys Adjoining Building

Schieffelin & Co. has bought the ten-story building at 28-30 Cooper Square, New York. This building adjoins the property at 16-26 Cooper square which the company purchased ten years ago. It contains more than 60,000 square feet of space and gives the company a combined floor area of more than 200,000 square feet.

Fritzsche Sales Meeting and Dance

Fritzsche Brothers, Inc. held its annual sales convention December 6-11 at New York headquarters in the Port Authority Commerce Building. The occasion brought to the city twenty of the company's sales force for a series of business and sales conferences. Vice-presidents George L. Ringel and Ben F. Zimmer in charge of sales, were in daily attendance along with other executives and department heads. F. H. Leonhardt, president, directed the week's activities.

All departments of the company's business have enjoyed substantial gains during the past twelve months. During the conferences plans were discussed and adopted for continued augmentation of business through better services, increased efficiency and coordination of effort.

On the social side, the program included luncheons daily for the sales organization at the Hotel New Yorker, an evening at the International Casino, and on Saturday, December 11, the company's annual dinner-dance as a climax to the week's activities. This event, surpassing all previous Fritzsche parties in attendance, brought together in the grand ball room of the New Yorker, two hundred and six executives and employees. At the suggestion of Mr. Leonhardt, everyone present participated in a silent toast to the memory of the company's late secretary, A. D. Armstrong, whose recent demise introduced the one sad note to an otherwise gay and festive occasion.

FRITZSCHE BROTHERS SALES CONFERENCE

Health Products Changes Name

The name of the Health Products Corp., 113 N. 13th St., Newark, has been changed to White Laboratories, Inc.

Harrower Endocrine Booklet

Harrower Laboratory, Inc., Glendale, Calif., has issued a new reference list of its endocrines, which contains complete descriptions of these products, formulas, dosage, indications, prices, etc. Copies are available upon request.

Ungerer Price List

Ungerer & Co., Inc., New York, issued a wholesale price list in December—a twenty-eight page booklet printed on cream colored paper in brown ink and illustrated with line drawings in a deep rose color. There are sections devoted to Aromatic Chemicals, Charabot Products, Concentrated Citrus Oils, Colors, Essential Oils, Flavors, Natural Fruit Flavors, Oleoresins, Olive Oil, Perfumers' Tinctures, Simile Fruit Essences, "Staffallens" Super-Specialties, Sundry Products, Terpeneless Oils, Unco Creamaromes, Unco Sapodors, Unco Simile Essences, Unco Talcaromes and Vical-Charvet Specialties. Copies are available upon request.

M. M.'& R. House Organ

"The Drum Key" a new house organ published by Magnus, Mabee & Reynard, Inc., made its first appearance in December. It is an eight-page pamphlet containing information on many of the company's latest products together with up-to-the-minute news of interest to the numerous industries which the MM&R organization serves and devotes considerable space to the historical background of essential oils. It will appear every other month, in the months when the MM&R price list is not published. Requests to be placed on the mailing list to receive "The Drum Key" regularly should be sent to Magnus, Mabee & Reynard.

Charabot Catalog

Charabot & Cie., Grasse, France, has issued a very complete catalog which offers to the perfumer, classified by categories, all the odorous natural products from flowers, roots, mosses, leaves, barks, woods, etc. The catalog is attractively printed on cream colored paper in two shades of brown ink and the text is printed in both French and English. Copies are available upon request.

Revson's Price List

R. F. Revson Co.'s January price list is now ready for distribution. The list contains fifty or more items not listed in previous issues and the prices are conveniently arranged for most materials in lots of one ounce up to and including original packages. Copies are available upon request.

Change in Name

The name of Juliette Products Co., Hollywood, Calif. has been changed to the Juliette Marglen Products Co. Eugene Coleman, Jr., is president of the organization.

General Drug Expands Aromatics

C. K. Wellenkamp, manager of the Agfa Aromatics division of the General Drug Co., New York, has announced an expansion program involving all of the activities of that division. Although the division retains its address and some of its functions at 170 Varick st., New York, sales and manufacturing have been consolidated in two adjoining buildings at 644 Pacific st., Brooklyn. Complete manufacturing and shipping facilities are available there and, in addition, a well equipped laboratory and sales offices. During the past few months two salesmen have been added to the staff. This expansion has been made necessary by the consistent and rapid increases in the volume of the Agfa division's business.

C. K. WELLENKAMP

Roche-Organon Co. Formed

Roche-Organon Co. has been formed to market a complete line of hormone preparations. The president of the new company is Elmer H. Bobst who has been president of Hoffmann-LaRoche, Inc., Nutley, N. J., since 1920. For the time being the products of Roche-Organon will be manufactured in the Hoffmann-La-Roche laboratories but extensive plans have been made for new laboratories for Roche-Organon adjoining the Hoffmann-LaRoche property.

An elaborate campaign to promote the new products is planned and $15,000 has been added to the yearly budget of the Roche-Review for the addition of an eight-page section on endocrinology.

Regulatory

Interim Revisions Announced

The following revision of the U.S.P. XI tests has been announced through the authority of the Committee of Revision and the action of the Board of Trustees and becomes official January 17.

AQUA AURANTII FLORUM, Page 64

Change the test for residue on evaporation to: *"Evaporate 100 cc. of the Orange Flower Water on a water bath, and dry the residue to constant weight at 100° C.: not more than 0.005 Gm. of residue remains."*

BENZOINUM, Page 86

Omit the test for "rosin," lines 13 and 14 from the bottom of the page.

OLEUM AMYGDALAE EXPRESSUM, Page 248

Omit the test for the solidification point of the fatty acids, lines 9 and 10 from the bottom of the page.

Woodbury Sued on Vitamin D

A suit has been filed by New Discoveries, Inc., Chicago, against John H. Woodbury, Inc., and Jergens Sales Co., Cincinnati. The Chicago company alleges unfair competition and asks damages of $750,000, claiming that it is the only company in the United States which can legally manufacture and sell Vitamin D produced by direct activation of the sun's rays. It also alleges that the defendants are selling soap represented as containing Vitamin D produced in this way though actually the Vitamin D used in Woodbury soap is produced by irradiation from a mercury vapor quartz lamp under the Sperti patent. The suit also mentions the "filtered sunshine" claim made by Woodbury and asks an injunction against the use of certain pictures and phrases in Woodbury advertising.

Mississippi Tax Considered

The State Tax Commission of Mississippi is considering a two per cent. sales tax on drugs and groceries sold by wholesale firms which are not to be resold. If put into effect a two per cent. sales tax would be levied on drugs and groceries sold to hospitals, dispensaries and boarding schools instead of the customary tax of one-half of one per cent.

Financial

Armstrong Insurance Dividend

Employees of Armstrong Cork Products Co., Lancaster, Pa., are participating in the distribution of $102,000 which represents dividend payments from the company's six-year-old group insurance.

American Home Dividends

American Home Products Corp., Jersey City, has paid dividends to its stockholders as follows: 20 cents a share to stockholders of record December 14 was paid December 24; 20 cents a share to stockholders of record December 14, was paid January 3.

THE IDEAL OF BUILDING *a better product*

"If a man can write a better book preach a better sermon, or make a better mouse-trap, than his neighbor though he builds his house in the woods, the world will make a beaten path to his door."—EMERSON

PRESENT-DAY merchandising does not permit the modesty of sitting and waiting for the world to come to you. But the ideal of building maximum quality into a product has lost none of its importance.

Few businesses can survive without repeat sales. And no matter how great the fanfare of sales and advertising, only the quality and performance of the product itself, can determine the percentage of repeat buyers.

Today, hundreds of pharmaceutical manufacturers know that only Baker's standards of quality—*measured purity by the ton*—are adequate to safeguard the reputation and the repeat sales of their products. Each Fine Chemical produced by Baker, must meet predetermined and exacting standards. These standards are so high that the manufacturer is assured of a dependable margin of safety. He knows no worry over this division of his business.

Baker salesmen are worthy representatives of Baker ideals. Have a talk with a representative; arrange for test samples of Baker products. Your confidence will be respected; you can make your own tests of Baker quality.

J. T. BAKER CHEMICAL CO., Phillipsburg, New Jersey

NEW YORK
420 Lexington Avenue

PHILADELPHIA
220 South 16th Street

CHICAGO
435 North Michigan Ave.

ANALYZED REAGENTS Baker's FINE CHEMICALS

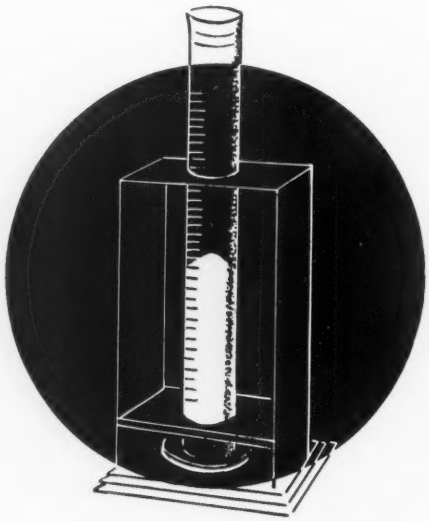
A partial list of Tonnage Fine Chemicals held under rigid control, at no price premium.

- Alkali Bromides
- Potassium Iodide
- Magnesium Oxide
- Cream of Tartar
- Bismuth Subcarbonate—Subnitrate and other Salts
- Caustic Potash and Soda Sticks and Pellets
- Rochelle Salt
- Lead Acetate
- Salicylates

Baker's fine chemicals

for Pharmaceutical Manufacturers

A Dentifrice maker asks . . .



"*Why is* BULK *So* IMPORTANT *In* PRECIPITATED CHALK?"

Because this bulky, aggregated material has proved the ideal filler for dentifrice, since these small aggregates enable considerable quantities of the necessary antiseptic and other important liquid ingredients to be firmly held.

Bulk, dependent largely on particle size, must be consistent and uniform, or the whole proportions of the formula can change during the process of manufacture.

Sturges Standard Precipitated Chalk has controlled, uniform particle size, by an exclusive process of precipitation. The Bulk originally ordered, as part of your formula, is rigidly adhered to in future deliveries—a guarantee backed by over 30 years experience with dentifrice manufacturers.

JOHN & E. STURGE, Ltd.
BIRMINGHAM, ENGLAND

Distributors:

H. J. BAKER & BRO.
271 Madison Ave. **New York, N. Y.**

THE
Rose
Synthetic

Wardia

by—
CHUIT NAEF & CIE.

PREVAILING conditions in the natural floral oil markets during the past few seasons have proved conclusively the wisdom of assuring yourself security and stability in your requirements of basic Rose products. Change to WARDIA and guarantee both constant quality and stable price!

Introduced to American perfumers two years ago, WARDIA has exceeded our most optimistic expectations. Its daily increasing sale is proof that it has lived up to all claims made for it.

WARDIA is entirely synthetic! Its unbelievably close resemblance to natural Rose has astonished and won the admiration of the most exacting perfumers and cosmeticians. Switch to WARDIA in your next batch formula and eliminate future worry!

A Trial Ounce—$3.50

Firmenich & Co., Inc.

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MONSANTO CHEMICAL COMPANY
IN RECOGNITION OF ITS MERITORIOUS CONTRIBUTION TO THE ADVANCE OF THE INDUSTRY AND PROFESSION, MADE POSSIBLE THROUGH A BROADER PARTICIPATION BY THE CHEMICAL ENGINEER IN THE AFFAIRS OF THE PROCESS INDUSTRIES
PRESENTED BY
CHEMICAL & METALLURGICAL ENGINEERING
DECEMBER 10, 1937

Achievement

WE accept this distinction with pride in the coordinated group effort that warranted it.

CHEMICALS OF QUALITY
Monsanto
ST. LOUIS, U.S.A.

Monsanto Chemical Company
ST. LOUIS, U.S.A.

Abbott Increases Dividend

The board of directors of Abbott Laboratories, North Chicago, Ill., voted December 9 to increase to 20 cents a share from the 10 cents originally declared on November 18, the amount of the extra dividend on the common stock paid December 29 to stockholders of record December 16. The regular quarterly dividend of 40 cents a share was paid on the same date.

Abbott Stock Oversubscribed

The public offering of 20,000 shares of 4½ per cent., $100-par cumulative preferred stock of Abbott Laboratories, North Chicago, Ill., made December 6, was oversubscribed upon the opening of business, according to a statement issued by the underwriters. The issue was sold at 103, compared with an offering price of par.

Crown Drug Dividend

Crown Drug Co., Kansas City, has declared a preferred dividend of 43¾ cents a share due February 15, 1938 and payable to stockholders of record February 10, 1938.

Dow Stock Offering

The Dow Chemical Co.'s registration statement covering the remainder of its unissued 5% cumulative preferred stock in the amount of 30,308 shares became effective on December 14, 1937.

Holders of the company's common stock of record at the close of business on December 22, 1937, were offered the right to subscribe for the preferred stock on the basis of 4/125 of a share of such preferred stock for each share of common stock then held at the price of $103 per share. Transferable subscription warrants for the number of shares or fractions thereof to which the stockholders respectively were entitled were mailed to each holder of common stock as soon as practicable after December 22, 1937. Subscription warrants not exercised on or before 2.30 P. M. (Eastern Standard Time) January 12, 1938 became null and void.

Norwich Extra Dividend

Norwich Pharmacal Co., Norwich, N. Y., has declared an extra dividend of 50 cents a share on common stock.

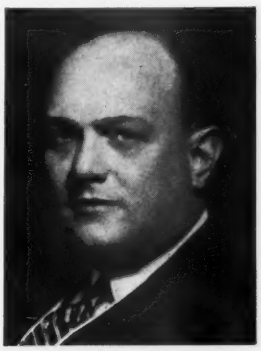
Mead Johnson Declares Extra

Mead Johnson & Co., Evansville, Ind., has declared a special dividend of $1.75 a share and a regular quarterly dividend of 75 cents a share on common stock. The regular semi-annual dividend of 35 cents a share was voted on 170,000 shares of preferred stock.

Associations

Magnus Again Heads Trade Board

At a meeting of the board of directors of the New York Board of Trade held December 28, Percy C. Magnus, president



PERCY C. MAGNUS

of Magnus, Mabee & Reynard, Inc., was elected president for 1938. This will be Mr. Magnus' sixth consecutive term as president of the New York Board of Trade.

Machinery Manufacturers Meet

The fifth annual meeting of the Packaging Machinery Manufacturers' Institute was held December 9, at Garden City, N. Y. The following officers were re-elected: H. H. Leonard, president (vice-president, Consolidated Packaging Machinery Corp., Buffalo); vice-presidents: Wallace D. Kimball, 1st vice-president, Standard-Knapp Corp. and Morehead Patterson, vice-president, American Machine and Foundry Co.; secretary-treasurer, H. L. Stratton.

Carl H. Lambelet, president, New Jersey Machine Corp., Hoboken was newly elected to the board of directors. Mr. Lambelet has been active in Institute affairs for a number of years, having served on the Code Authority of the Packaging Machinery Industry and also the Paper Box Machinery Industry.

Directors re-elected for a three year term were: Kendall D. Doble, vice-president, Pnenumatic Scale Corp. Ltd., Carl E. Schaeffer, sales manager, Stokes & Smith Co., and Wallace D. Kimball, 1st vice-president, Standard-Knapp Corp.

Program topics included "Tax Problems"—"Advertising Costs" and "Sales, problems, policies and trends," with leading manufacturers participating in the general discussion.

Music and entertainment were features of the annual dinner. Committee on arrangements for the meeting was: Morehead Patterson, chairman, Wallace D. Kimball and C. H. Lambelet.

The semi-annual dinner meeting of the Institute will be held on Tuesday evening, March 22, 1938 at the Palmer House, Chicago, on the opening day of the Packaging Exposition.

Proprietary Assn. Members

The following companies are new members of the Proprietary Association: Charles Advertising Service, New York, Central Broadcasting Co., Des Moines, Gordon Vlchek Advertising Agency, Cleveland, Charles A. Weeks Co., Inc., New York, and Ivers-Lee Co., Newark.

Teller Heads Chicago Perfumers

At a meeting of the Chicago Perfumery, Soap & Extract Association, held December 28, the following officers were elected: president, W. Kedzie Teller of Columbus Laboratories; vice-president, A. A. Bafetti of La Playa Laboratories; secretary-treasurer, M. B. Vance of Givaudan-Delawanna, Inc. The annual reports of all the committees were presented at the meeting and T. E. Hanshaw, the retiring president and Mr. Teller, the new president, made short speeches.

Chicago Drug Assn. Party

The thirty-fifth annual Christmas banquet of the Chicago Drug & Chemical Association was held December 21 at the Stevens Hotel, Chicago. Almost the entire membership of the association was present. Dinner was followed by an elaborate floor show and Dr. Frank B. Kirby, president of the association, presided over the drawing for door prizes. The chairman of the entertainment committee was R. L. Holland, L. H. MacDougall was vice-chairman and other members were Carl Abrahamson, C. M. Black, C. Christensen, Harris Frazier, L. A. Lanigan, G. F. Pauley, Stewart Rice, A. G. Schneider, Floyd Thayer, Harry Wallace and J. E. Ward.

Foragers Re-elect Officers

The Foragers of America have re-elected W. W. Neilson as president of the organization for 1938-39. Bert Georgi was re-elected vice-president and A. J. Connolly was again re-elected secretary and treasurer. Members of the Board of Governors for the coming year are: Oscar Betz, Aaron Chisholm, Theodore M. Hamlon, Frank Herman, C. R. Keeley, and Martin F. Schultes.

The annual banquet of the Foragers took place Saturday evening, January 8, at 6.30 p. m. at the Hotel Astor, with Frank L. Graham, eastern sales manager of the DeVilbiss Co., as guest of honor.

Chicago Christmas Party

The annual Christmas dinner dance of the Chicago Perfumery, Soap & Extract Association was held at the Knickerbocker Hotel, Chicago, December 9. Dinner, dancing and a floor show were enjoyed by a large number of members and guests. Walter H. Jelly and Arthur F. Frantz, who headed the committee, were largely responsible for the fact that the party was a great success.

Lipstick

We can solve your lipstick problems. We now manufacture PERMINDEL LIPSTICK in forty-five colors and eight compositions. *Also, our research department at Hoboken, N. J., has proven very successful in working up special lipstick and cream rouge compositions in up-to-the-minute colors.*

Let Kolmar's Hoboken Plant work up a special lipstick and cream rouge composition for you. Let us help you present a finer product to your trade, one that will increase your lipstick sales. Call Hoboken 3-2463 today.

These Kolmar Representatives are ready to serve you:

M. C. Boyd, 100-108 River Street, Hoboken, N. J.
Norman Kole, 11-108 Merchandise Mart, Chicago, Ill.
Warren Curry, 2895 Peachtree Rd., Atlanta, Ga.
R. G. F. Byington, 1709 W. 8th St., Los Angeles, Cal.

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Suess and Taub Speak on Colors

Albert Suess and Professor A. Taub were the principal speakers at a symposium on colors used in pharmacy and cosmetics held by the New York Section of the American Pharmaceutical Association at the Columbia University College of Pharmacy, January 10. Meetings of the section are held regularly on the second Monday of each month at 8.30.

Dinkins Heads Drug & Chem. Section

At a meeting of the Executive Committee of the Drug, Chemical & Allied Trades Section of the New York Board of Trade, Inc., held December 14, the following

PHILIP M. DINKINS

officers of the section were elected for the coming year: chairman, Philip M. Dinkins, vice-president of American Cyanamid & Chemical Corp.; vice-chairman, Charles E. Kelly, president of Hagerty Brothers & Co.; treasurer, Robert B. Magnus, treasurer of Magnus, Mabee & Reynard, Inc.

Drug Dinner March 3

The annual banquet of the Drug, Chemical and Allied Trades Section of the New York Board of Trade will be held Thursday, March 3, at the Hotel Waldorf-Astoria. The reception will start at 6.30 P. M. Plans are under way to make this the most outstanding and successful get-together the trade has ever known.

Associated Chain Drug Meeting

The Associated Chain Drug Store meeting will be held February 14 and 15 at the Hotel Biltmore, New York. H. C. Naylor, of the Lane Drug Co., Atlanta, is chairman of the program committee for this meeting. The officers are: T. M. Beavers of Peoples Drug Stores, Washington, D. C., president; S. J. Besthoff, Jr., of Katz & Besthoff, New Orleans, La., vice president; F. J. Griffiths, of the Pennsylvania Drug Co., New York, secretary and treasurer, and A. F. Zicht of H. S. Benedict Co., New York, executive secretary. The entire two-day meeting will be devoted to toilet goods.

"Bims" Organized

Bims, a new organization of men allied with the cosmetic, drug and allied industries, was formed on December 7. At that time a general committee was elected as follows: B. H. Badanes, McKesson & Robbins, Inc.; A. C. Burgund, Carr Lowrey Glass Co.; A. H. Bergmann, Oxzyn Co.; Warren Brown, "American Druggist;" Curtis Campaigne, Yardley & Co., Ltd.; Sewell Corkran, E. N. Rowell Co.; Charles W. Darr, Harriet Hubbard Ayer, Inc.; Frank L. Graham, De Vilbiss Co.; Harry Griffiths, Pennsylvania Drug Co.; C. R. Keeley, TOILET REQUISITES; F. J. Lueders, George Lueders & Co.; K. L. Patterson, Stanco Distributors, Inc.; Martin F. Schultes, The Hewitt Soap Co., Inc.; W. K. Sheffield, N. E. Collapsible Tube Co., and W. F. Zimmerman, Helfrich Laboratories.

The purpose of this new organization is the promotion of good fellowship. The organizers are members of a group which has met on several occasions during each summer to play golf and which now becomes consolidated into a permanent organization. At a meeting in January it is planned to close the membership list and establish an initiation fee. Those joining now are exempt from fee. The organization's rules are: each member pays his own expense; talk of business is prohibited; prizes will not be solicited or accepted. Application blanks may be secured from any member of the above committee.

F.W.D.A. Meeting

The Federal Wholesale Druggists' Association will hold its mid-year meeting at the Hotel Roosevelt, New York, February 15-17.

Shapero Heads Drug Chain Assn.

Nate S. Shapero, president of Cunningham Drug Stores, Detroit, has been elected president of the National Association of Chain Drug Stores, succeeding George Gales, president of the Liggett Drug Co., who has resigned. Mr. Shapero will be succeeded as vice-president of the association by Justin Dart of the Walgreen Co., Chicago.

Obituaries

Dr. Charles H. LaWall

Dr. Charles Herbert LaWall, dean of pharmacy at the Philadelphia College of Pharmacy and Science, died of pneumonia December 7 in the Jewish Hospital, Philadelphia, after an illness of two weeks. He was sixty-six years old.

He was born in Allentown, Pa., and was graduated from the Philadelphia College of Pharmacy in 1893. After a year as a retail pharmacist he returned to Smith, Kline & French, in whose employ he had been during the time he was in College, as a chemist on the laboratory staff.

In 1900 Dr. LaWall was named instructor in theory and practice of pharmacy at the Philadelphia College of Pharmacy. For three years he continued his laboratory work at Smith, Kline & French on a part time basis and then became associated with the late Dr. Henry Leffmann in his analytical laboratory. After Dr. Leffmann's retirement, he became associated with Dr. Joseph W. E. Harrisson, assistant professor in biological assaying. In 1905 he received the degree of Master of Pharmacy from the Philadelphia College. Upon the death of Dean Joseph P. Remington in 1918 he became dean of pharmacy.

CHARLES H. LAWALL

He served for thirty-three years as chemist for the Bureau of Foods and Chemistry of the Pennsylvania Department of Agriculture. He was elected to the revision committee of the U.S.P. IX in 1910 and served continuously on subsequent revision committees. His association with N. F. revision committees began in 1906 and continued to 1929.

Beginning as an associate editor of the United States Dispensatory in 1909 on the 20th edition, he was co-author with Dr. Horatio C. Wood, professor of pharmacology, of the 21st and recently-issued 22nd editions of this standard reference work.

He served as co-author with Dr. E. Fullerton Cook in the preparation of the 7th and 8th editions of Remington's Practice of Pharmacy.

He was the author of a historical volume, "Four Thousand Years of Pharmacy," which has come to be regarded as a standard reference work on the chronology, of this branch of science.

In 1931 he was appointed United States representative on the League of Nations' International Committee for assaying opium. In 1927 the American Pharmaceutical Association awarded the Remington Medal to him. He served as president of the A. Ph. A. in 1919, of the Pennsylvania Pharmaceutical Association in 1911, and of the American Association of Colleges of Pharmacy in 1923. During the World War he was a member of the

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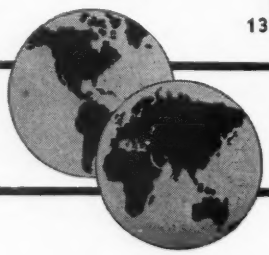
Water Soluble Gums	Waxes	Cosmetic Raw Material	Fruit Flavors
Thymol	Stearic Acid	Oleo Resins	Food Colors
Aromatics	Essential Oils	Perfume Bases	Quince Seed
Rice Starch	Zinc Oxide French	Olive Oil	Irish Moss

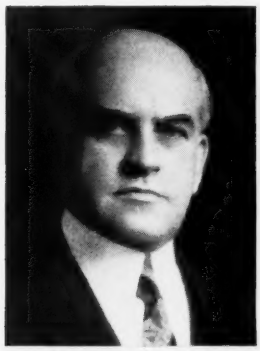


auxiliary committee on drugs and medicine of the War Industries Board. The University of Pittsburgh made him a Doctor of Pharmacy in 1919 and Susquehanna University made him a Doctor of Science in 1920.

Dr. LaWall was a fellow in the American Association for the Advancement of Science and the Royal Society of Arts. He was a member of the American Chemical Society, Franklin Institute, Franklin Inn Club, American Medical Association, Society of Public Analysts (England) and the Philadelphia Academy of Natural Sciences

Charles F. Kelly

Charles F. Kelly, manager of Arco Crown Cork & Cap Co., was found dead in his bed on the morning of December 31. Mr. Kelly had a long history with the drug trade at one time being a salesman for Parke, Davis & Co. Later he was sales manager of Monsanto Chemical Co. At a later date he was sales manager of the Rhodia Chemical Co., continuing this position when Rhodia was absorbed by the



CHARLES F. KELLY

Newport Co., and for a short time after the combined companies were absorbed by DuPont.

Upon leaving DuPont, Mr. Kelly went back to be associated with Dr. Mueller, who had owned the Rhodia Chemical Co. when Mr. Kelly was first associated with it. Later Dr. Mueller became interested in the Arco Crown Cork & Cap Co., and Mr. Kelly managed this company for Dr. Mueller up to the time of his death.

Mr. Kelly is survived by his widow. Funeral services were held in New York, Sunday, January 2.

Dr. Sanja Schwabacher

Dr. Sanja Schwabacher, president of the S. Schwabacher Co., New York, importers of Russian mineral oils, died in his office on December 11 at the age of forty-six. His sudden death was the result of a heart attack.

Dr. Schwabacher was educated in Geneva and Berlin and received his doctorate of laws from Heidelberg University in 1913. After some years in the banking business in Hamburg, he came to the United States in 1921 as representative for Oelwerke Julius Schindler, Hamburg oil refiners, a concern headed by his brother-in-law, Julius Schindler. In 1925, Dr. Schwabacher established the firm which bears his name, acting as representatives for the Schindler interests.

DR. S. SCHWABACHER

This firm now continues under the management of Gustav Schindler who has arrived in this country from Hamburg to take over Dr. Schwabacher's duties. Mr. Schindler is the son of Julius Schindler, founder and head of Oelwerke Julius Schindler.

J. B. Blakiston

Joseph B. Blakiston, treasurer of A. H. Wirz, Inc., Chester, Pa., died December 20, at his home on Twyckenham rd., Bowling Green, Media, after an illness of four weeks. He was fifty-two years old.

In 1914 he was employed in the sales department of A. H. Wirz, Inc., and advanced himself through minor positions to sales manager and finally became a member of the firm, holding the office of treasurer of the company at the time of his death.

Col. John W. Lowe

Colonel John W. Lowe died in a hospital in Boston, November 6 following an operation. He was the first treasurer of the National Association of Retail Druggists. More than forty years ago he engaged in the retail drug business in Connecticut and was a former president of the Connecticut Pharmaceutical Association. He later became the representative in Boston of Eli Lilly & Co. and continued this association until his retirement from active business about five years ago.

Mrs. Emily Klingel

Mrs. Emily Klingel, head of the Howard Drug & Medicine Co., Baltimore, died at her home in that city December 4 after an illness of six years. She founded the drug house in 1893 and was active in the Women's Advertising Club of Baltimore and other women's organizations in that city. She is survived by a son, Clarence H. Klingel, who has been head of the drug company since her retirement.

Robert E. Perry

Robert E. Perry died on December 3 at the age of sixty-nine. For the past thirty-five years he had been sales manager of T. Shriver & Co., Harrison, N. J., and was responsible in large measure for building the reputation which the company now enjoys.

Leigh B. Liggett

Leigh Bence Liggett, son of Louis K. Liggett, founder and head of the United Drug Co., died at the Newton Hospital, Boston, December 1, at the age of forty. He was controller of expenses of the United Drug Co. and a director of Drug Securities, the Simmons Hardware Co. and the Pocasset Realty Co.

Mrs. Charles E. Dohme

Mrs. Ida Schultz Dohme, widow of Charles E. Dohme, for many years president of Sharp & Dohme, died at her home in Roland Park, Baltimore, December 16, at the age of ninety-six.

Edmund L. Barkley

Edmund L. Barkley, a sales manager for McKesson & Robbins, Inc., died at Knickerbocker Hospital, New York, December 8 of pneumonia. He was sixty-two years old.

L. S. Helfrich

L. S. Helfrich, father of J. H. Helfrich, head of Helfrich Laboratories, Chicago, died early in December at the age of eighty-seven. He was born in Bath, Pa., and was graduated from the Philadelphia School of Pharmacy in 1870. Until his retirement in 1925, he was engaged in the manufacture of pharmaceuticals and toilet preparations in the employ of some of the best-known and largest houses in the country. He was buried in San Francisco, December 14.

W. Herbert Hammersley

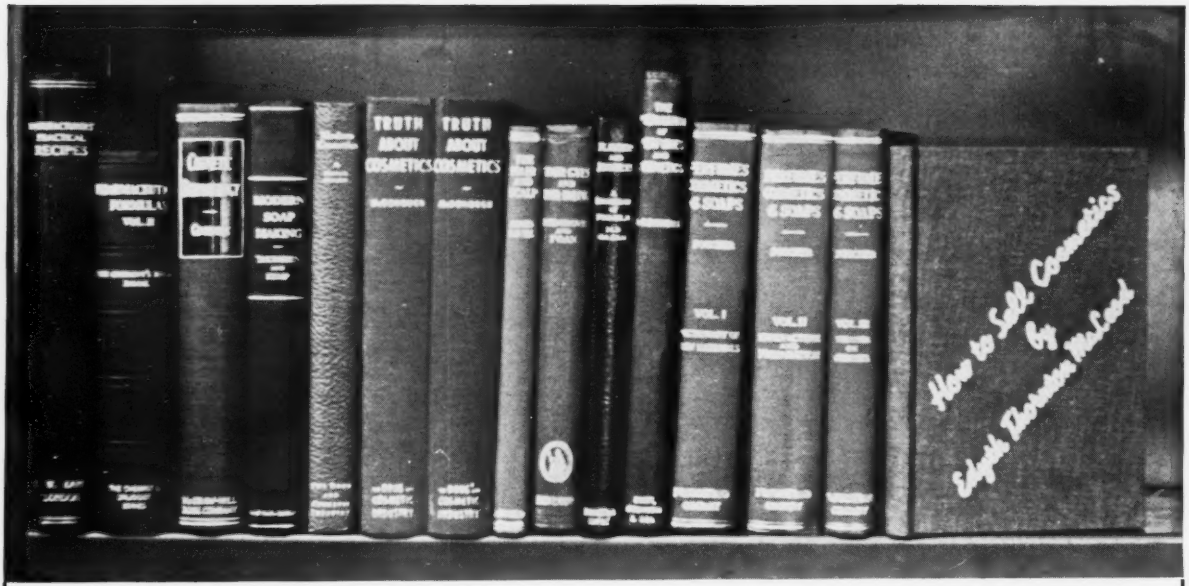
W. Herbert Hammersley, associated with Swindell Brothers, Inc., Baltimore, for nearly forty-five years, died suddenly December 24.

Paul S. Rumpel

Paul S. Rumpel, merchandising manager of W. C. Ritchie & Co., Chicago, died December 26 as the result of injuries received in an automobile accident November 24.

Theodore W. Day

Theodore W. Day of the export department of McKesson & Robbins, New York, died December 25 after an illness of one week. He was sixty-nine years old. His entire business life was spent in the wholesale drug business. He was first ssociated with C. S. Littel & Co. and became associated with McKesson & Robbins when it purchased the Littel company.



The Cosmetic Bookshelf

TRUTH ABOUT COSMETICS—McDonough, 311 pp. $5.00

A searching and critical analysis of cosmetics and cosmetic action. A discussion of every type of cosmetic, their chemical character, their use and established cosmetic value.

HOW TO SELL COSMETICS—McLeod, 104 pp. $2.00

Chapters cover the sales of every kind of cosmetic. This book is a compilation in easily read form of a notably successful sales course.

MODERN COSMETICS — Chilson Second Edition in process of publication.

The first book to be published in America on the manufacture and formulation of cosmetics is now in its Second Edition. New features: Completely revised and tested formulas, a complete section on manufacturing processes, plant layout, machinery and equipment.

COSMETIC DERMATOLOGY — Goodman, 591 pp. $6.50

Dictionary of ingredients, discussion of anatomic, physiologic, and pharmacologic bases of cosmetic application; "shelf-tested" formulary; and appendices on odor and color in cosmetics.

PERFUMES, COSMETICS & SOAPS—Poucher, Second Edition

Vol. 1—Dictionary of cosmetic raw materials, 439 pp. $8.00

Vol. 2—Perfume formulary and procedure of manufacture 426 pp. $8.00
Vol. 3 — Cosmetic formulary and procedure of manufacture, 228 pp. $7.00

PREPARATION OF PERFUMES & COSMETICS — Durvelle, 419 pp. $10.00

This well-known work contains much valuable information on cosmetic raw materials and a complete formulary on the manufacture of perfumed products.

THE HAIR AND THE SCALP—Savill, 288 pp. $5.00

Discusses in detail the structure and physiology of hair, and the probable causes and treatments of common conditions such as dandruff, excessive oiliness, etc.

HAIR DYES AND HAIR DYEING —Redgrove and Foan, 194 pp. $3.00

There is little literature on hair-dyeing. In the making of this book, a chemist and a practical hairdresser have collaborated to produce the most complete treatise on the subject.

FLAVORSANDESSENCES—Gazan, 115 pp. $10.00

This new-type formula book gives you brand-new formulas, most of which have never before been published. Every formula has been carefully tested. Every product is highly concentrated, very soluble, and may be kept for several years without change or deterioration.

MODERN SOAP MAKING — Thomssen and Kemp, 550 pp. $7.50

Designed as a practical volume for the practical soap-maker. Its compilation is based on twenty years of actual experience in the soap plant by the authors. The emphasis is all on the practical handling and refining of raw materials, kettle practice, and other operations in the modern soap factory.

MANUFACTURERS' PRACTICAL RECIPES — Jameson, 579 pp. $10.00

Although a general formula book, this volume contains many worthwhile recipes for perfumes, and cosmetics.

PHARMACEUTICAL FORMULAS Vol. 2—982 pp. $8.00

The title of Vol. 2 is somewhat misleading as this work contains 415 pages of formulas on Toilet Preparations. This work is authoritive and can be recommended.

THE DRUG AND COSMETIC INDUSTRY

101 WEST 31st STREET ***Book Department*** **NEW YORK CITY**

INDUSTRY'S BOOKS

Any book reviewed in this section can be purchased direct from THE DRUG AND COSMETIC INDUSTRY at regular publisher's price.

Volumetric Analysis, by A. J. Mee, 223 pages, Chemical Publishing Co., New York, $3.50.

Although this work is primarily a textbook, it offers much to those who wish to become familiar with simple and accurate methods of quantitative analysis. Particular care has been taken to make the printed instructions for carrying out experiments as straightforward and free from ambiguity as possible. Throughout the book emphasis has been laid on the accuracy of volumetric determinations. Only those methods that can be relied upon to give accurate results in the hands of comparatively inexperienced analysts have been included. The work is thoroughly up-to-date and includes experiments on the use of ceric sulfate, adsorption indicators, and oxidation-reduction indicators.

Lubricating Greases: Their Manufacture and Use, by E. N. Klemgard, 873 pp. Reinhold Publishing Corp., New York, $15.00.

This is a book of practical and scientific data on the manufacture and use of lubricating greases, for grease makers, refinery executives, research chemists, lubricating engineers, salesmen, mill and power plant superintendents, and others interested in the efficient manufacture and utilization of lubricating greases. Includes the chemical analyses of many commercial lubricants, abstracts of important patents, formulae and practical processes for the manufacture of greases.

The valuable information contained in this work on the uses and industrial application of lubricating greases will be particularly interesting to plant and production men in the drug and cosmetic industry.

A Scheme of Inorganic Qualitative Analysis, by E. M. Stoddart, 39 pages, Chemical Publishing Co., New York, $1.00.

This pamphlet presents a reasonably complete outline of the laboratory aspects of qualitative analysis.

Practical Methods in Biochemistry, by F. C. Koch, 302 pages, William Wood & Co., Baltimore, $2.25.

This laboratory manual is intended to present for medical students the more important qualitative and quantitative chemical aspects of cell constituents, of cell activities and of the composition of blood, secretions and excretions. The application of certain qualitative tests has been improved by conducting the tests in a comparative manner on known concentrations of substances under investigation. The second edition has served primarily to eliminate duplications and make more specific some of the instructions.

The Chemistry of Petroleum Derivatives, by Carlton Ellis., volume 2, 1464 pages, Reinhold Publishing Corp., $20.00.

This volume serves to continue the subject matter of the earlier Chemistry of Petroleum Derivatives published in 1934. In some cases additional references to work published prior to that year have been included. Since 1934 much material of importance to the petroleum chemist has appeared and this is covered in the chapters on sulfur and sulfonation, the utilization of by-products, polymerization, detonation, nitration, thermodynamics, asphalt, and the production of hydrocarbons from gases. Of special interest in this field is the new chapter on petroleum hydrocarbons in Anesthesia.

The Chemistry of Synthetic Surface Coatings, by Wm. Krumbhaar, 200 pages, Reinhold Publishing Corp., $4.00.

This book thoroughly covers both the theoretical and practical aspects of surface coatings. It is important in two directions, discussing the coatings themselves, natural and synthetic, and also introducing the increasingly important questions having to do with the application of coatings to synthetic materials. A section is also devoted to the use of synthetic substances in printing inks.

ANOTHER UNSOLICITED TESTIMONIAL

for S&S packaging equipment

How "Allied" Control Helps You To Increase Profits On Your Toiletries

For over 50 years Allied Products has assisted prominent distributors of toiletries and cosmetics in the manufacture of their merchandise. Our clients enjoy increased profits as a direct result of this working arrangement. Here briefly are the reasons why:

CONTROLLED PRODUCTION: From start to finish, from raw materials to finished goods every operation in the Allied plant is under rigid control. This constant vigilance eliminates guesswork . . . avoids waste . . . saves you money.

MAXIMUM TURNOVER: Each day Allied clients receive a report of merchandise on hand or in work. They receive ample warning of re-order dates. In addition, our modern facilities make possible the quick processing of finished goods. This means a minimum inventory and a maximum turnover—both vital to your profits.

KNOWN COSTS: Allied clients know in advance exactly what their costs will be. Their price schedules are based on absolute certainty, not on optimistic guesswork.

REDUCED OVERHEAD: Allied clients do not have money tied up in plants or manufacturing equipment. They use their capital to expand distribution, to increase consumer good-will through advertising.

The Allied plant is big. The Allied staff of specialists is highly skilled. The equipment is the last word in efficiency. And behind all this is 51 years of experience which has welded personnel and equipment into a smooth working whole.

You may find, as others have, that the unit cost of our quotation is well under your present cost. In any event it's easy to find out. Address inquiries to Mr. A. D. Henderson, Allied Products, Inc., 114 Fifth Ave., New York (WAtkins 9-6070). They will receive prompt attention.

BATH SALTS • CREAMS • DENTIFRICES • DEODORANTS • DUSTING POWDERS • FACE POWDERS
HAIR AND SCALP PREPARATIONS • LOTIONS • MANICURE PREPARATIONS • PERFUMES
SACHETS • SHAVING PREPARATIONS • SKIN TONICS • TALCUM POWDERS • TOILET WATERS

ALLIED PRODUCTS, Inc. • 114 FIFTH AVE., NEW YORK
PLANT AND LABORATORIES: SUFFERN, NEW YORK

WHEN companies like Allied Products Inc., take double page advertising space, like the reproduction above, to point out the efficiency and economy of Stokes & Smith Packaging Equipment, you, too, might profit by becoming familiar with Stokes & Smith equipment.

The machine illustrated is the S & S Rotary Powder Filler, which is used to give a clean, accurate, speedy fill for powder drums, or cans. Some users obtain speeds up to 50 packages per minute.

Stokes & Smith Company also manufacture a complete line of Filling, Packaging and Wrapping Machinery, both semi and fully automatic. Write for complete information.

STOKES & SMITH Co

PACKAGING MACHINERY — PAPER BOX MACHINERY

4912 Summerdale Ave., Philadelphia, U. S. A.

PRODUCTION FORUM

BY Francis Chilson
PRODUCTION ENGINEER

KIEFER'S NEW ENDWELD TUBE FILLER

One of the outstanding new developments in packaging equipment that was exhibited at the Chemical Show in New York recently, was the "Endweld" Tube Filler and Sealer developed by The Karl Kiefer Machine Company, of Cincinnati.

This machine is original in design and function. Instead of merely closing the ends of the tubes, it fuses or welds the metal, making a strong, leak-proof seal.

It is claimed that this new seal saves up to ¾" of metal on every tube over what other methods consume.

In operation this machine first cleans the tubes with filtered, compressed air. All dust and carton fibre accumulation is expelled,—collected mechanically into a cloth bag provided. Then the tubes are filled by accurate measurement,—without any stringing or smearing of the product. This filling mechanism has dual-control, whereby both the speed of operation and the velocity of fill may be regulated. Therefore, regardless of the consistency of the product, it can be filled free of air bubbles. After leaving the filling station, the ends of the tubes are shaved so as to make all of identical length. Then they are subjected to the welding process. The end of the tube may be given a small double fold over if desired. After this, the tubes are automatically ejected from the holders.

In production if any holder passes under the filling pump without a tube in it or if there is one without a cap, the pump will not deliver yet the motion of the machine continues. This prevents waste and delay.

A counter records all tubes filled, and also the number of tubes packaged each minute. The machine has a variable speed drive controlled by hand wheel. All the power mechanism is mounted on ball bearings and runs in oil. The lubricating system is mechanically self-operating, reaching every bearing and moving part. The oil reservoir needs to be filled once a month.

Manufacturers who wish to package liquids in tubes and those who now have trouble with leakage in export shipments will be much interested in this machine.

Personally we can testify that this new machine is not only a beautiful design job but is almost noiseless in operation. Write for an illustrated bulletin.

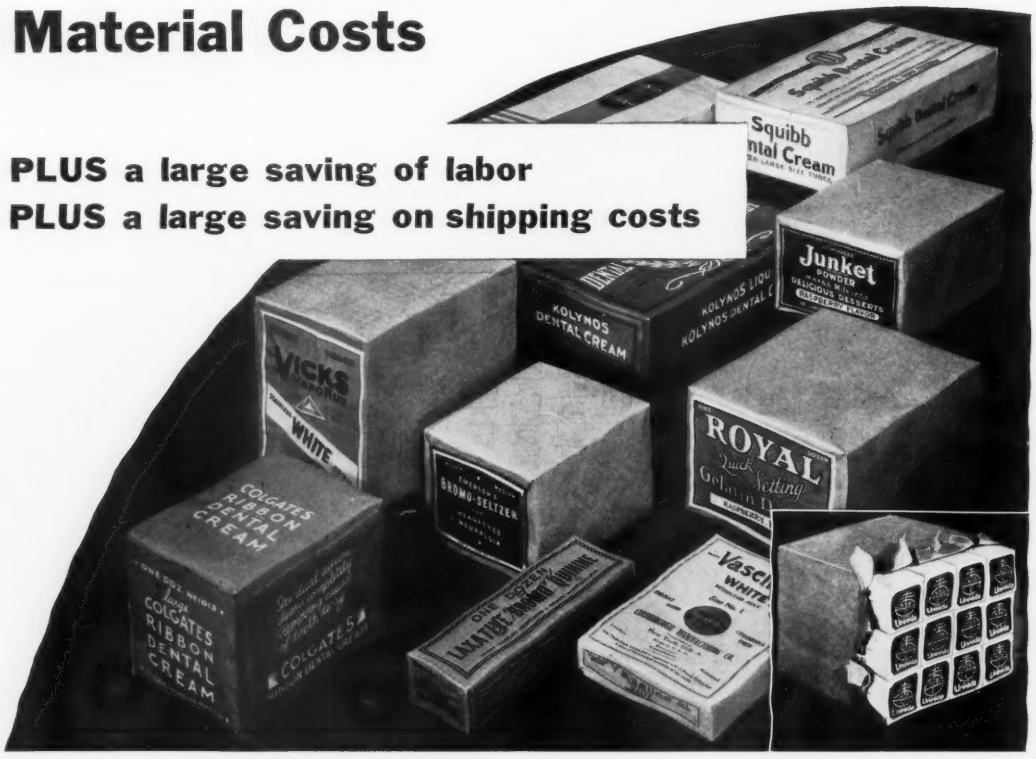
INSULATION

A new type of insulating material called Reflec-O-Cell consisting of a combination of cellular, insulating paper and aluminum foil, is being offered by Aluminum Aircell Insulation Company, Pittsburgh, Pa. According

Machine Bundling SAVES 60%

on Material Costs

PLUS a large saving of labor
PLUS a large saving on shipping costs



Paper for bundling costs *60% less* than cardboard boxes. Machine bundling will make this immediate saving for you!

In addition, machine bundling saves *$2,000 to $5,000 per year on labor*, because packages are automatically fed and assembled. One bundling machine will take care of the output of two or more cartoning machines.

Transportation charges are also lowered—consider that bundling material weighs only 1-3 as much as containers.

Add up these striking savings! Obviously, the bundling machine pays for itself in a few months . . . saves thousands of dollars within a year's time. It is no wonder that more and more manufacturers are turning to machine bundling.

We can give you definite figures on machine bundling costs to compare with your present costs. Send us a dozen of your packages. We will return them to you bundled on the Model F-6 Machine, so that you can see the neat, strong, firmly-sealed package it makes.

PACKAGE MACHINERY COMPANY, Springfield, Mass.
NEW YORK CHICAGO CLEVELAND LOS ANGELES
Peterborough, England: Baker Perkins, Ltd., Melbourne, Australia: Baker Perkins, Pty., Ltd., Mexico, D. F., Apartado 2303, Buenos Aires; Argentina: David H. Orton, Maipu 231

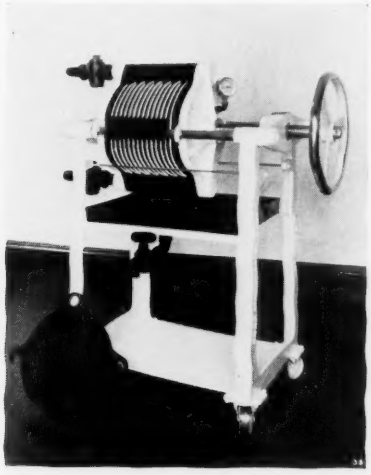
PACKAGE MACHINERY COMPANY
Over a Quarter Billion Packages per day are wrapped on our Machines

to the Aluminum Company of America from whom we obtained the information, this new paper minimizes the three sources of heat loss:—conduction, convection and radiation. It is said that the material is clean, odorless, light in weight, and vibration resistant. Reflec-O-Cell is shipped in large rolls and it can easily be cut to suit particular installations.

ERTEL HARD RUBBER FILTER

The new Ertel hard rubber asbestos disk filter was mainly designed and offered for liquids which coming in contact with metal would be contaminated, or vice versa, contaminate the filter.

Liquids going through the Ertel hard rubber filter do not touch anything but hard rubber and, therefore, will



not in any way be attacked and, therefore, have the security of not taking on any metallic taste or corroding the filter.

The construction of the Ertel hard rubber filter in its general principle is similar to the well-known Ertel bronze asbestos disk filters thereby working on the same principles with the use of the well known Ertel asbestos filter sheets.

It is built in sizes to handle from five to thirty gallons per minute.

ELECTROSTATIC AIR CLEANER

Westinghouse Electric and Manufacturing Company have developed an electrostatic air cleaner which is worthy of study for air conditioning and dust filtration systems. It is claimed that this equipment will remove particles of dust which are small enough to pass through any kind of mechanical filter. The air stream containing the suspended dust is subjected to an ionic bombardment emitted by fine wire filaments carrying a charge of 12,000 volts. The dust particles pick up an electrical charge and then, as the air passes through an electrostatic field in the equipment, the electrically charged particles are deposited on aluminum plates. It is claimed that this electrostatic filter will remove pollen from the air and all other kinds of impalpable dust. As a dust precipitator for a granulating room or a powder mixing room, this machine might fill the bill. We have no information as to its cost.

PIECE WORK VS. DAY WORK

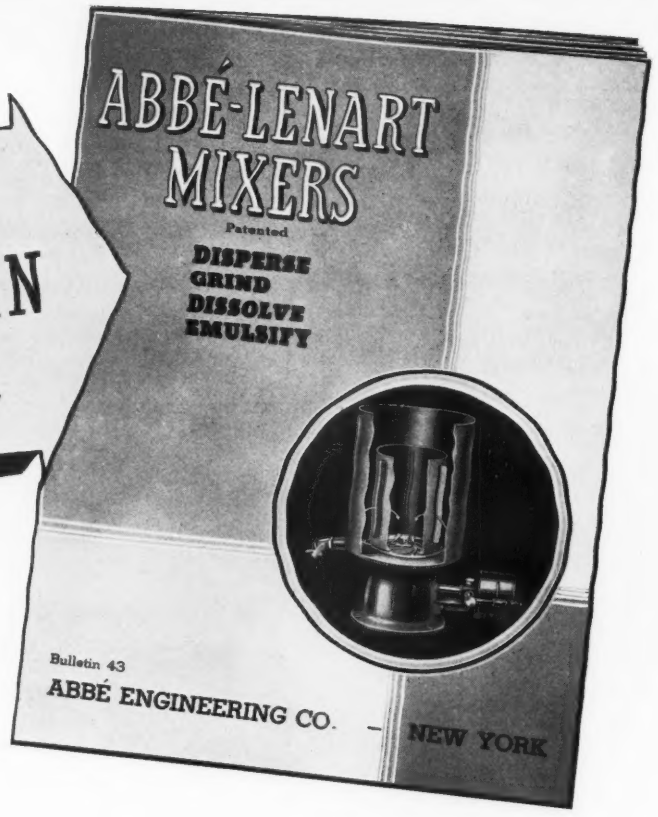
For a long time we have been opposed to piece work payments even for manual work. It has seemed to us that the use of piece rates is an admission on the part of management that they can not, by any other means, obtain maximum performance from their workers. Experience has shown this to be a fact in many plants. If a worker is able to put forth greater effort or to arrange his work so that he or she can produce more goods during the course of a day, it shows that management has no clear criterion as to how much labor a worker can perform and has failed to study and simplify the operations involved with sufficient care. We have seen piece work systems installed by firms of so-called efficiency experts under which workers were able to increase their incomes radically in a very short time. To us this indicates a failure to study the operations involved with sufficient care before piece rates were established. If an untrained worker can so arrange his movements that he can radically increase his income, it is certainly a hell of a commentary on management which is supposed to be trained to arrange work so that it can be accomplished with the utmost speed and with a minimum of movement. When we were doing plant work ourselves, privately, we always managed to show results as good with day work as we were with piece work, and in several instances during our professional career, we have seen cases where labor costs per item went down when the workers were shifted from piece work to day work. We realize, however, that such judgments may be unfair in that the failure of a piece work system may be due, not to the principle of payment involved, but to the mechanics of the system or carelessness in its application.

We must admit, on the other hand, that we have seen cases where on manual work piece rate systems have worked out extremely well. At Merck & Company the method employed for paying workers seems to us to be ideal because their system is not a mere speed-up plan but is a method designed to enhance the workers skill. In this instance we like the method in spite of the clerical work involved because it is eminently fair to the workers. In the first place every worker is given a guaranteed hourly rate and this rate, we wish to add, is higher than the average paid in drug and chemical plants. Thus the worker is assured of a good income regardless of any control that he or she may exercise over production. In the second place this system is based on a very sound foundation. All operations that can be mechanized are handled mechanically. Next, very careful motion studies are made to simplify the operations involved before the rate is established. Therefore, when the rate is finally arrived at, it represents a fair measure of the worker's performance, after management has exhausted all the means by which motions can be simplified and fatigue minimized. If,

This

NEW BULLETIN

Reveals How



To
Cut Mixing Time in Half
•
Reduce Processing Cost
•
Improve the Product in Making

Liniments - Lotions - Emulsions
Ointments - Pastes - Creams
Oils - Fats - Soaps - Liquids

Now you can get the whole story on the remarkable performance of Abbé-Lenart Mixers in the drug and cosmetic industry: How and why it mixes soaps 3 times faster than do other mixers—How it saves at least 40% in labor and operating costs in making ointments, creams, pastes and a host of other products.

Abbé-Lenart Mixers improve dispersion, dissolving or emulsification faster and cheaper, under any operating conditions—atmospheric, vacuum, pressure, heat or cold.

Discover how Abbé-Lenart Mixers can prove a real, profit-making production machine in your plant—as it has in plants everywhere.

Ask for Bulletin 43. No obligation.

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ABBÉ ENGINEERING CO.
56 Church St. New York, N. Y.

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through the development of unpredictable skills, the worker can increase his output above the level on which the rate is based he is paid a bonus. Cliff Cox, the Industrial Engineer of the company, has done a fine job in developing incentive rates for the workers in the Merck Plant. The system works out extremely well in this plant because the varied line of the company creates a vast amount of hand work which can be simplified but not mechanicized.

In most plants where piece work prevails, the worker is not guaranteed a basic hourly rate or else the basic hourly rate which is guaranteed is very low. One thing, which to us seems ridiculous, is the effort to rate mechanical production over which, under an alert management, the workers can have no control. Another danger in over-emphasis on piece rates is that the piece rate enthusiast is likely to establish rates for work which could be mechanized at a much greater advantage. Numerous examples of the blind application of piece rates can be cited, any one of which illustrates the fallacy of having piece rates established by firms of efficiency experts who have no knowledge of the specialized equipment of this trade or of the materials and processes which are peculiar to it. At Grove Laboratories for example the output of a certain item was 100 gross per day, requiring a crew of six men and 29 girls. These operators were paid on a liberal daybasis. Undoubtedly, motion study and piece rates would have increased production per operator and decreased costs to some extent. But the introduction of proper process and packaging equipment decreased the crew to three men and eight girls and it increased output to 230 gross in a working day. This vast increase in production together with some simplification of the packaging materials resulted in a net saving well over a dollar per gross. No such saving ever could have been made by any piece work method. In another instance we succeeded through mechanization in decreasing a packaging crew from 140 to 18 operators. These are extreme cases of course but they are by no means unusual. In almost every plant with which we have anything to do, we find operators being paid on piece rates for work which easily could be mechanized. We also find many operations which are mechanized and which could be made much more efficient through the introduction of better equipment.

As we see the problem, the correct procedure in reducing operating costs is:—

1. Simplify and consolidate lay-out to reduce handling costs and eliminate unnecessary supervision.

2. Mechanize every operation that lends itself economically to mechanical handling.

3. Study and simplify all physical movements of operators to eliminate fatigue and to increase the ease and speed with which manual operations may be performed.

4. When all the foregoing devices have been exhausted, pay piece rates for work over which the operator can exercise control, provided you are convinced that such rates will increase production and decrease costs to a point which will pay for the necessary clerical work which will be involved.

When piece rates are necessary, the plan should be sold to the workers on the idea that it will decrease their physical fatigue and increase their earnings above a guaranteed basis. Increased out-put should never be mentioned nor increased speed; the worker simply doesn't give a dam about the management's interests, so you should concentrate on his interests. Finally, you should avoid applying piece rates to minor operations which influence only a very small part of the output of the plant, for the reason that, if piece rates are carried to extremes, workers look upon the whole scheme as ridiculous and eventually become resentful at too many restrictions. It would be unfair to conclude this homily on piece work without paying tribute to a colleague whom I have never had the pleasure of meeting but whose work speaks extremely well for him, namely, Allan H. Mogenson.

Mogenson evidently realizes the futility of applying piece rates until after the possibilities of mechanization have been exhausted.

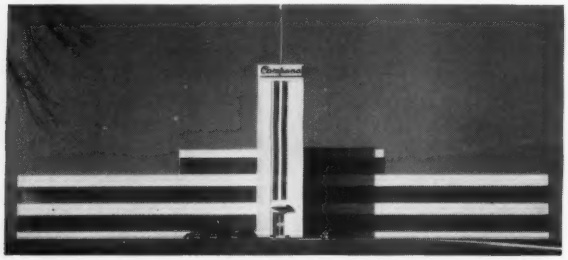
He also realizes that, since he does not specialize in one industry, he cannot know all the mechanical equipment which may be peculiar to each of the numerous industries he covers. Therefore, instead of trying to make one system to fit every industry he reaches, he simply teaches the engineers and supervisors in each particular plant how to simplify the operator's work and how to establish fair rates of pay based upon simplified performance. This seems to us to be a very rational approach because it presupposes that all mechanical possibilities have been exhausted before the final step is taken.

We believe that simplification should, in the case of complex, repetitive operations, point the way toward the development of new equipment, because there are many processes, which if they can be simplified sufficiently, can also be mechanized.

EXECUTIVE ENGINEER WANTED

We are engaged in organizing an engineering department for one of our clients and we are on the look out for a good man to head it up. The client is one of the big firms in the trade and the job is a good one. It is essential, in addition to a sound mechanical or chemical engineering training, that the man shall have had experience in charge of a repair and maintenance department. He should be a good gadget maker and have a working knowledge of motion study and piece rates. This is a good job requiring a tactful, cooperative man who can do his own thinking and who knows how to handle responsibility. If any of you are interested in this I will be glad to have a letter giving complete details of training and experience. It is needless to say that all communications will be held in strictest confidence and present connections will not be in any way approached.

Within Campana's "Perfect Package"

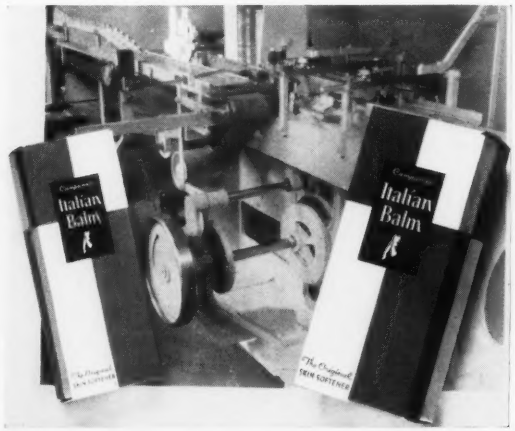


WINDOWLESS WONDER is this sparkling new building of the Campana Sales Company, makers of Italian Balm and Dreskin. It is an architectural and engineering triumph in glass block.

A Redington Adjustable Cartoning Machine does double duty

Aptly called the "perfect package" is the newly completed toilet goods plant of the Campana Sales Company near Batavia, Ill. Its modern *glass* exterior, interior and partitions, its dust-proof rooms are the personification of purity and cleanliness in the highest degree.

And aptly called the perfect cartoning machine is this *adjustable* Redington. It cartons *two* sizes of Campana's Italian Balm with unusual ease, speed and economy.



IT'S NO TRICK TO CHANGE this Redington adjustable cartoning machine from handling the small size to the large size—or vice versa. The "handy man" makes the simple adjustments in less than 30 minutes. Because of Redington's sound engineering design, this adjustment is trouble-free—no "kinks" or "jams" arise to plague the production manager or put his schedule behind.

SIMPLE TO OPERATE

is this Redington adjustable cartoning machine. Just one operator is in attendance. Each bottle of Italian Balm is cartoned with a *circular enclosed* . . . the complete job is done at a high speed, in a minimum of floor space and with low labor cost.

F. B. REDINGTON CO. (Est. 1897)
115 So. Sangamon St., Chicago, Ill.

REDINGTON
Packaging Machines

for CARTONING · CELLOPHANE WRAPPING · CARTON SEALING

NEW ENVELOPE AND BAG FILLER

B. F. Gump Co., 4335 Clinton St., Chicago, Ill., offers a new Semi-Automatic Filler for stubborn granular, powdered, flaked, or pulverized materials . . . in quantities ranging from ¼ oz. to ½ lb. Such materials are weighed, check-weighed, and filled into bags, cartons, envelopes or glass containers, in one speedy, automatic operation. Entirely new and exclusive features give absolute control of each operation. Materials are diverted from a fast moving, continuous stream, and are gradually cut down to a quick positive dribble finish. A pointer and dial show the plus or minus of the completed discharge. A plus or minus poise setting is eliminated by a new scale beam that is graduated in

ounces and fractions thereof. Accuracy within 1/64 oz. plus or minus is guaranteed.

One operator can average from 18 to 25 completed packages per minute . . . feeding the bags into the bag opener, removing the filled bag, and closing and stapling. The machine, however, has a speed range up to 30 discharges per minute. Extremely flexible, changes from one size package to another are practically instantaneous. These are complete, self-contained units, ready for immediate operation by merely plugging into a light socket.

A new, exclusive bag opener and holder is another outstanding feature of Bar-Nun Auto Check Gross Weighers. This new device eliminates the difficulty usually encountered in handling small bags. A special deflector release lock prevents deflection of material if bag is not in place, eliminating all spillage. We are informed that before long models will be available for handling larger size containers.

SHREDDING MACHINE

Mitts and Merrill, Saginaw, Michigan, have developed a grinding machine for shredding wood, paper waste and all sorts of junk, which they call a Hog. It is claimed that this machine will, by means of an automatic safety arrangement, throw out large pieces of tramp iron. Small pieces of steel, such as nails, etc. and case strapping will be chewed up. It seems to us that this might be a good machine for grinding drugs or for chewing up factory waste so that it can be burned.

FEEDING EQUIPMENT

Syntron Company, Homer City, Pennsylvania, have developed a hopper for feeding small objects, such as tablets, to a moving belt. The rate of speed and hence the quantity can be controlled by means of a rheostat. It occurs to us that by mounting one of these hoppers over a small conveyor belt, you can make a very handy machine for inspecting tablets. A drum of tablets dumped into the hopper would be fed out on the moving belt in a uniform, moving layer so that an operator could easily inspect them. By using an eliptical belt moving in the horizontal plane like the chain of a Colton Tube Filler, and by making the belt sections out of glass plates, it would be possible for the operator to inspect both sides of the tablets at the same time simply by mounting mirrors below the unit. A belt type machine for inspecting tablets has been in use for many years but it is limited to one size and shape of tablet because it carries the tablets between belts over the face of a drum so as to turn them over and it requires two operators. A device which would eliminate turning the tablets over should have a greater range of usefulness.

SEND FOR A COPY

A very interesting bulletin has been issued by Patterson Foundry and Machine Company, Liverpool, Ohio, concerning pilot plant equipment. The bulletin describes the various small size mixers, mills and filters produced by this company.

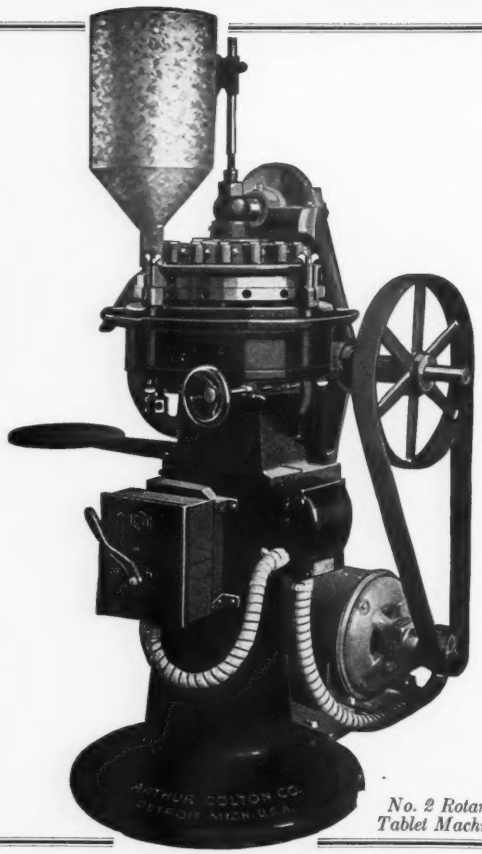
The Philadelphia Drying Machinery Co., Philadelphia, Pa., have issued bulletin INV-2 describing the various types of drying equipment made by this company including truck dryers for tablet granulations, rouge cakes, etc.

Abbe Engineering Company, 50 Church St., New York City, has issued a well illustrated and informative booklet on the manifold uses of the Abbe Lenart Mixer in mixing liquids, creams, ointments and pastes. This is a remarkably useful machine, the merits of which we have discussed with you on numerous occasions. It will repay you well to get a copy of the bulletin.

Beach Russ Company, 50 Church St., New York City, suggests that you write for a copy of their bulletin No. 62 concerning the great variety of centrifugal pumps they make.

Mixing Equipment Corp., Rochester, New York, have issued a couple of bulletins on various types of portable mixers. This company makes the famous Lightin mixer with which most of you are familiar.

Sarco Company, 183 Madison Ave., New York, N. Y., have issued a catalog on a great variety of steam hookups. We like especially the blue print drawings the book contains showing the best way to make steam and water hookups for various applications.



No. 2 Rotary Tablet Machine

New and Improved!

We have no yearly models—but improvements and refinements are being constantly added to Colton machines.

There are over five hundred Colton Rotaries in use.

Superior design, sturdy construction and ease in operation have made this possible.

The No. 2 Rotary Tablet Machine has such desirable features as *positive pressure*, eliminating varying thicknesses of tablets; *hardened steel gear drive*, eliminating frequent replacement of worms used on other makes, and *sliding upper punch holders*, to hold the punches rigidly, enabling the manufacture of special shaped tablets most satisfactorily.

Write for Catalogs.

ARTHUR COLTON COMPANY

2620 East Jefferson Ave.

Detroit, Michigan

JUST PURCHASED

MACHINERY

3—Pfaudler 150 gal., tilting type, glass-lined Rouge and Powder Mixers, with double motion agitator.
5—J. H. Day 100, 200, 400, 800, 3000 lb., belt and motor driven Powder Mixers.
15—Pony Mixers, 8, 15, 20, 40, gal., belt and motor driven, new and used.
2—Kiefer, Metal-Glass 100 gal. Percolating Units.
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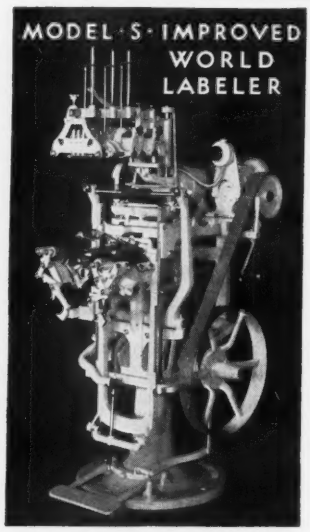

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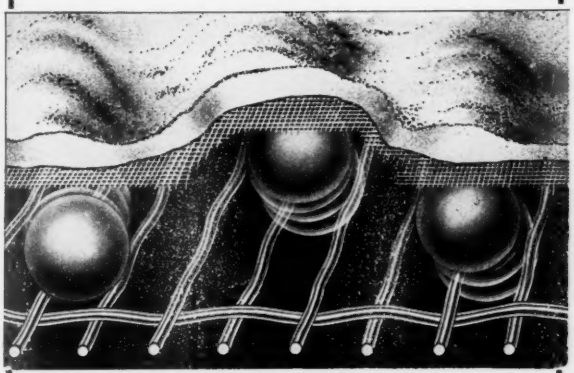

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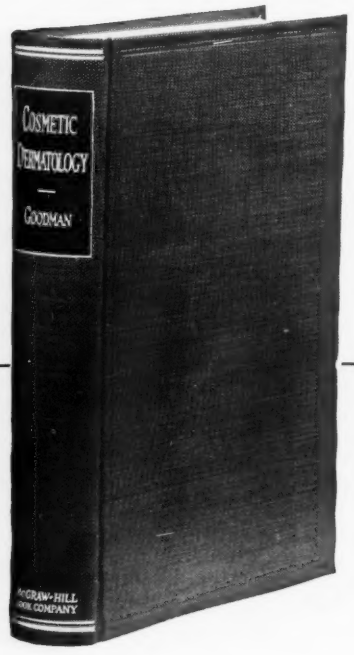

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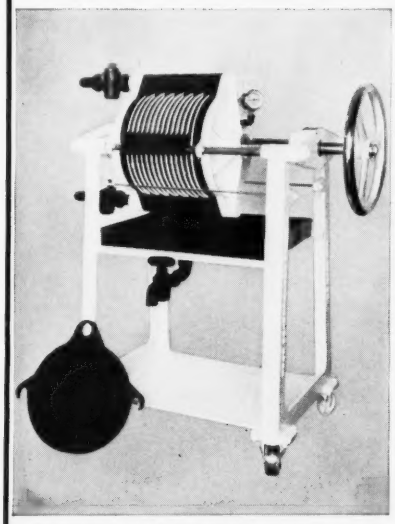

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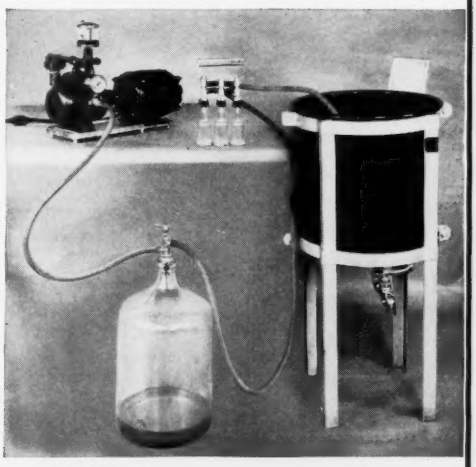

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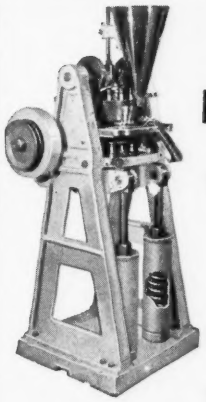

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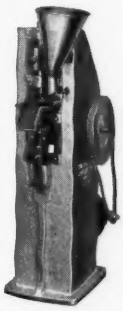

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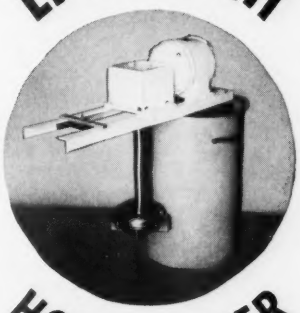

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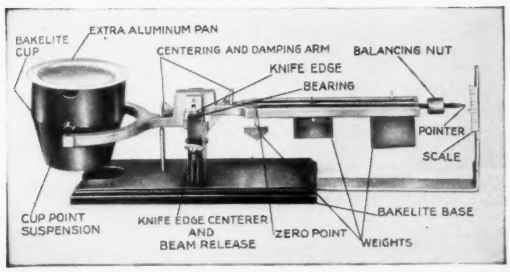

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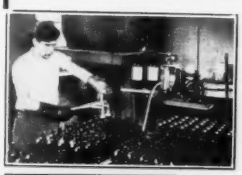

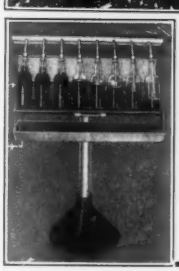

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STRANGEST NIGHT

An Aromatic Fantasy

by

PIERRE DANCO

A chemist in perfumery,
With all its latent mystery,
Was Doctor Sniff. No other art
Had found admittance to his heart.
Most firmly he had set his mind
To toil and slave until he'd find
The secrets used in compounds when
Sesostris and Tut-an-khamen
Were courting,—though still in their teens,
Their much adorned and scented Queens.

For days and weeks, yea months, he sat,
And often burned the midnight Watt,
In search for new redolencies,
For rare and subtle fragrancies;
Compounding oils that hold and yield
The souls of flowers of the field;
Synthetics which the human skill
Engenders through a vacuum still.

He mixed and tested, mixed again,
Retested, striving to obtain
Aromas unknown heretofore;
Revamping compounds, adding more
Of one or other precious scent;
Strange products from the Orient,
Exotic drugs, infusions which
Delight the senses and bewitch
The olfactory nerve of those
Who fondly cater to their nose.

'Twas very late, and from the street,
There could be heard the shuffling feet
Of some belated passer-by,
Who, with an overdose of rye
Within his out-of-balance ego,
Would burst into some boisterous lingo,
And make the sleeping dogs to howl,
Or startle some awakening owl.

Within the Sanctum, on that night,
A parsimonious spooky light
Threw ghostly shadows round the room.
There hung a sad and mournful gloom
Upon the chemist's furrowed brow.

On every shelf, row after row
Of jars and bottles, he looked over,
With searching glances, to discover
What new alliance could be made
Between them.

Bah! . . . he was dismayed.
For feverishly he had been testing,
Without a single day of resting,
Of formulas score after score,
And mixtures of all kinds galore.
But none had filled his expectation.
So, raging with exasperation,
Without the time it takes to think,
He poured them all into the sink.
Then, with a gesture of despair,
He stamped his feet, he tore his hair,
—Or what was left of it,—he smashed
Pipettes and beakers. Liquids splashed . . .
And, as if drunk with their aroma,
He dropped and slipped into a coma.

Unconscious to the world he lay
Amid this temulent array
Of Absolutes with spicy scent,
Of Concretes highly redolent,
Synthetics which emit a smell
That cheats the flowers, or reaks like . . .

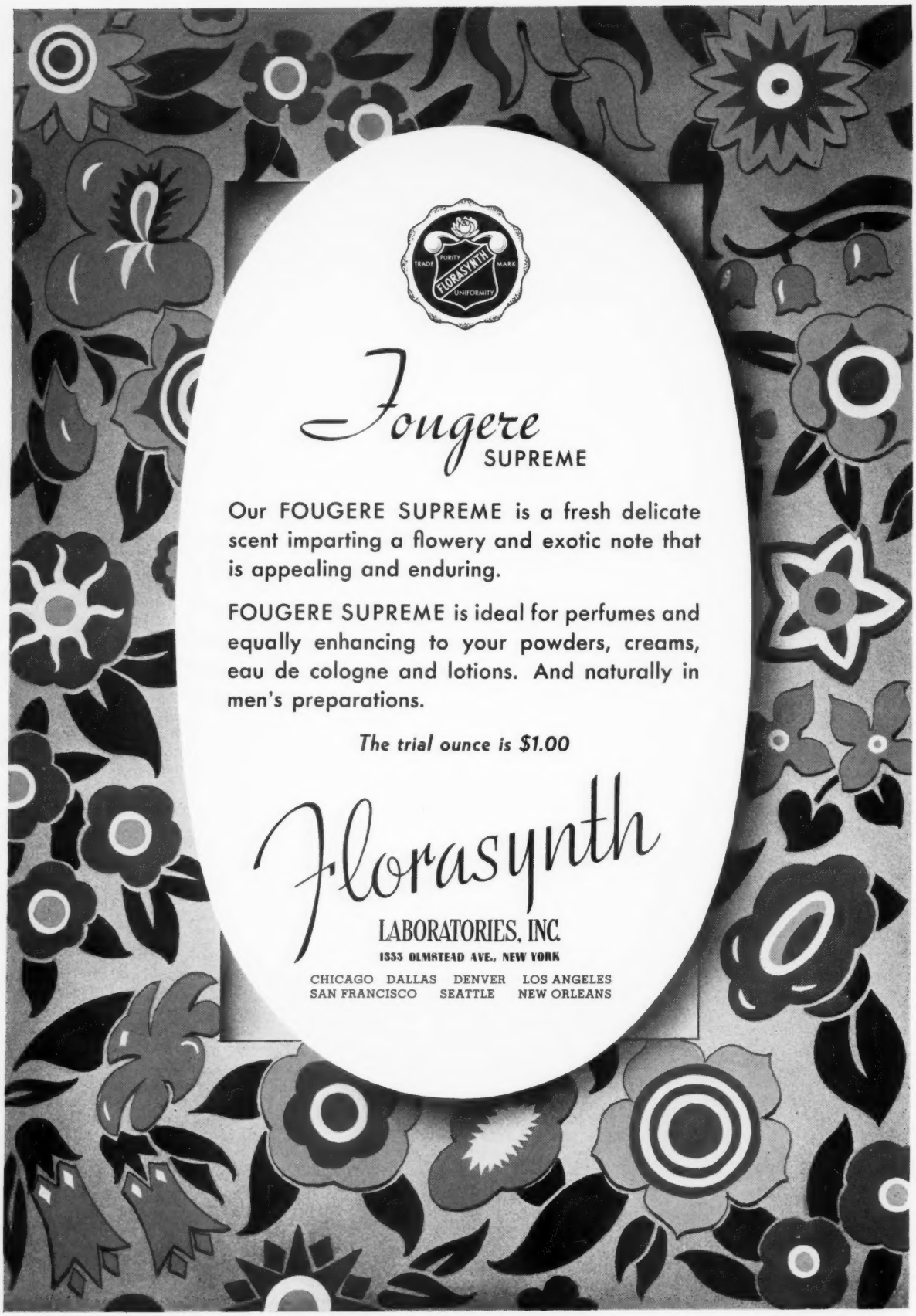
Well,
The stage was set for spooks and ghosts
To come and be the eerie hosts,
And take the chemist's place just when
The latter took the count of ten.

For, from a shelf, way-up, a noise
Was heard, soon followed by a voice,
First faint, then loud, until, at last,
It roared into a hissing blast.

"I am," it said, "the Patriarch
"Of all of you; and Noah's ark
"Was built long after I began
"To be the cherished talisman
"Of men who took the utmost pride
"In taking only for a bride
"A girl they could afford to drench
"Into my love-evoking stench.
"I am the perfume Solomon
"Was soaked in on the day he won
"The heart and soul of Sheba's Queen.
"For centuries have I not been
"The luring odor of the race
"That sprang from Adam? . . . Not a trace
"Of one of you, perjured impostors,
"Is to be found upon the rosters
"Of ancient ages, who like me,
"Where IT and THE perfumery.
"I have but scorn for you; you are
"But plagiarists; whether from tar
"You sprang, or from some lowly oils,
"Or are the piratical spoils
"Which vanquished flowers of the field,
"Tortured by mankind, have to yield
"To satisfy their changing moods,
"Or whether, spirits from some woods,
"You call yourselves with names that sound
"As if you were of some account.
"I warn you all to keep in mind:
"I am the Emperor of your kind.
"I am the oldest, and alone
"I reign upon my scented Throne.
"Not one of you can come and claim
"My world-old lineage, or my fame.
"And none can boast of pedigrees
"Like mine, . . . not even Ambergris."

Thus roared and boasted, hissed and spat
The product of the Civet Cat.

From out a drum of Alcohol
A tincture spoke: "You vile Scatol!
"You reeking, nasty, loathsome thing,
"How dare you call yourself our King,
"You nauseous product which is wrung
"From out a beast which to a skunk
"Should be compared? Do you pretend
"To be so bold as to contend,
"Feline, to be the noblest one,
"When I, Son of Leviathan,
"From whose entrails I sprang, am here? . .
"From hemisphere to hemisphere
"The sailors on the stormy sea
"Have been in constant search for me.
"Who is it that unites and mixes
"Like no one else? . . . That binds and fixes
"The divers oils, which otherwise
"Against each other would arise,
"And which, without me, can't be bound
"Into one uniform compound?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"You fetid paste, how do you dare
"To even think you can compare
"Your olid, putrid pestilence
"With my ambrosial redolence?
"Away with you! . . . Go back from where
"Your stench has come! . . . Get out of here! . . .
"Begone! . . . Decamp! . . . Vamose! . . . Scamp! . . . Scat! . . .
"Obtrusive and obnoxious Cat! . . . "

"What's all this rumpus, may I ask?"
Inquired an essence in a flask
Of shining metal. "Did I hear
"Civet and Ambergris declare
"Their sole, exclusive right to own,
"Without dispute, Aroma's Crown? . . .
"Preposterous, unheard of claim
"To unwarranted rank and fame.
"For, have not centuries enthroned
"Me in the realm of Flowers, and crowned
"Me Queen? . . . Who is there to oppose
"My sovereign rights, Me, Mighty Rose?
"The time has come, at last, for me
"To claim my birth-right, and to see
"That none of you should usurpate
"The Queenship from my distillate.
"I warn you all, and more so those
"Who try to imitate me, Rose.
"Synthetics, as they call themselves,
"And which, for shame! . . . now share our shelves;
"Intruders, aliens with no right
"To come and nestle side by side
"With me and those with blue-blood strains
"Of Flora running through their veins.
"Do not forget: I am your Queen.
"I'll suffer only those who've been
"The souls of flowers to abide
"In my domain and share my pride.
"The day has come and is here now
"For war between us; and I vow
"Destruction and extinction to,
"Synthetics, Bah! . . . the host of you! . . .
"From now on, in perfumery,
"Enough of your effrontery
"Have we allowed, you lowly bastards;
"We'll show you that we are the masters,
"And, if we have to fight, come on! . . .
"Let this be our Armageddon! . . . "

And lo! there rose a mighty yell
Among the Absolutes, as well
As from the Concretes. One and all
Had heard the Queen of Flowers' call.

"You said a mouthful, Queenie," spoke
The timid Violet that awoke
Aroused by all the oratory
Which more than filled the laboratory.

"What's all this?" asked the Rhodinol
"Have you all lost your self-control,
"And gone high-hatted just because
"You think you can dictate the laws?
"Do tell me what you think you'd be,
"Fake claimants to a dynasty
"That rests on crumbling feet of clay,
"If Chemistry and its array
"Of glorious oils with thousands scents,
"Aromas new and redolence
"Unknown hereto, had not, perchance
"Been here to bolster and enhance
"Your fading fame? . . "

"Fie! . . . What a crust! . . . "
Ejaculated with disgust
The Musk of Tonquin. Neroli
Concurred: "Of course, we all agree
"With Flowers' Queen." Castoreum
Vociferated: "Fakers come! . . .
"Synthetics, we will show you that
"Your odors are both sour and flat,
"Unworthy of admission to
"Our realm in which you are taboo! . . . "

Mimosa, Iris and the host
Of essences with right to boast
Of flower pedigrees joined all
And answered to their cronies' call.
They yelled and roared, they cried and squeaked,
They shouted, bellowed, screamed and shrieked.
An Absolute took just one leap
And put Terpineol to sleep.
While Hydroxytronellal,
With fury diabolical,
Jumped on the Lemon. Petitgrain,
With more than ordinary strain,
Bumped Linalyls and Aldehydes,
And took its vengeance out their hides.
The oils of Mint and Pennyroyal,
Joined in the fray; both true and loyal
Bounced to support the clanish cause
So proudly headed by the Rose.
Both Ambergris and Civet-Cat
Were squaring up their age-old spat.
The Methyls and the Phenyls fought
And won the round, though dearly bought,
From Tuberose. The Coumarin
Rushed to the help of Vanillin
Which wrestled with the Bergamot.
Mimosa slung a vicious shot
And slaughtered Methyl Heptenone.
Labdanum gasped a dying groan,
While Paracresol Acetate
Mixed in the fistical debate,
Met uppercuts with deadly blows
Upon Queen Rose's pinkish nose.
Geranium took fiendish pride
In smashing Di-Phenyloxide.
With blushing cheeks came Rosemary,
With guarded moves and tactics chary;
She sparred and clinched, then socked and dealt
Some mighty blows below the belt
Of Methyl Acetophenone.
Sweet Orange oil slew Ionone.
The raving mad Benzophenol
And Phenyl Ethyl Alcohol
Joined hands with Indol and Citral,
Who, drunk as in a bachanal,
With hatred blazing in their hearts,
Threw mighty fists, as sharp as darts,
Into the bodies of their foes.
It was a bloody slaughterhouse.
Benzaldehyde K. O.ed Styrax.
A Ketone floored Opoponax.
While Sassafras stabbed Linalol,
The rancorous Citronellol
Was murdering a Butyrate
The glutton Di-Ethyl-Phthalate
Absorbed all oils within its reach.
Jacinthe and Jasmin both took each
Some of the Cinnamates in hand.
The Violet, suave and bland,
Gored Eugenol. Ylang-Ylang
Jumped in the breach and with a bang
Dumped Methyl Heptine Carbonate,
With Iso Butyl Benzoate,
Into the Mousse de Chene. The Cloves
Laced on their four ounce boxing gloves,
While Patchouli and Lavender
Sparred right and left

No haven there
Was to be found. No truce was sought,
No quarter given, for they fought
The epic feud 'twixt Naturals
And Aromatic Chemicals.

The air was filled with wails and groans,
With gruesome cries and whining moans,
When down the shelves the bottles crashed,
The oils and tinctures gushed and splashed;
And, keeping up their bloody fight,
They streamed together to unite,
At last, their independent scents
Into one single redolence.

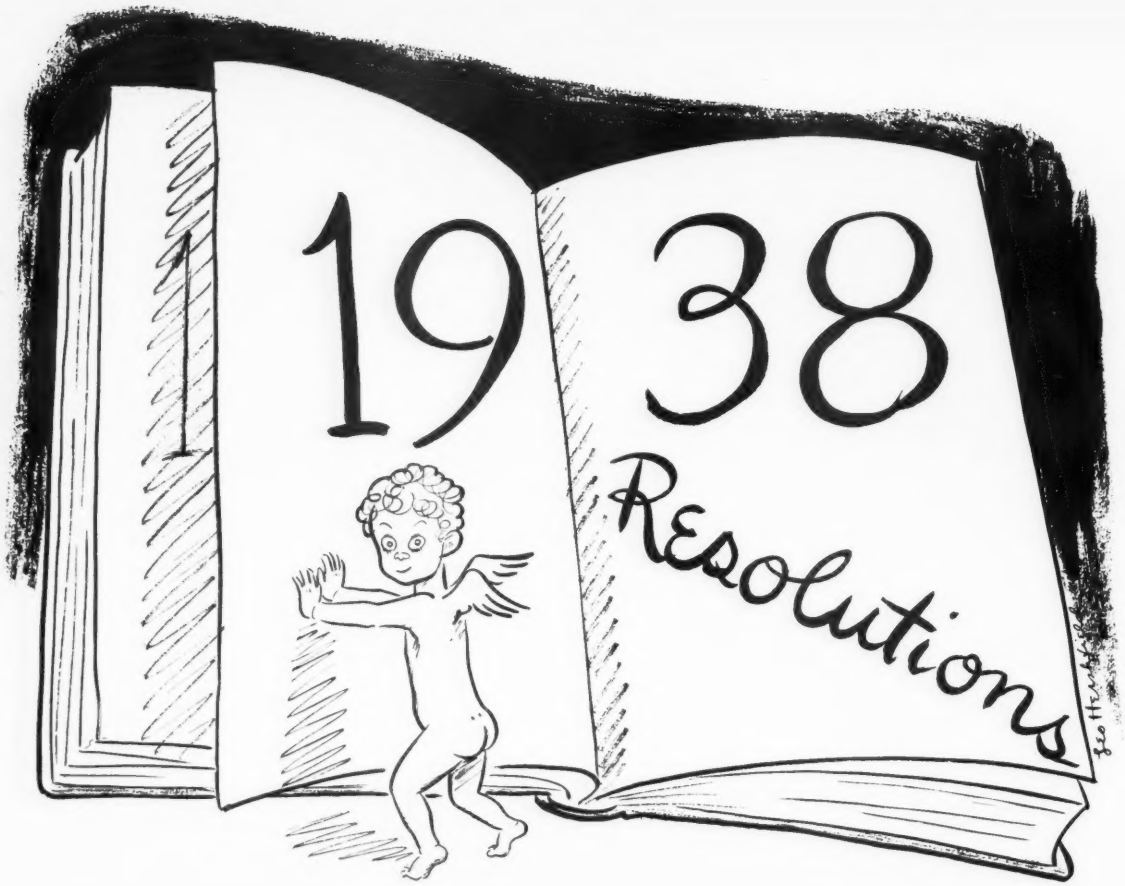
And lo, behold! it happened that
They flowed together in a vat
That had stood empty, and that now
Engulfed the torrent which this row,
—The weirdest heard—of Casus-Belli,—
Had caused to pour into its belly.

The smell that rose from this compound
Was one that never had been found
By any chemist. It was sweet
But also strong, and yet discreet.
It called before the memory
The Sages of perfumery
Divinely odoriferous,
So heavenly mysterious,
Made in Olympus, we are told,
By Gods for Goddesses of old.

The chemist, roused from out his coma,
Became aware of the aroma
With which the Sanctum now was filled.
His olfactory sense was thrilled.
And, rising up, he looked and found
The barrel with the new compound.
He knew not when, how, nor wherefrom
This most celestial brew had come.
But thinking that, perhaps, may-be,
In his unconsciousness had he
Concocted this ambrosial scent,
Most perfect and most excellent,
And worthy of well-founded plaudit,
He, modestly, took all the credit.

Into the vat he dipped a blotter,
And then one more, and then another.
He smelled and found them superfine,
Intoxicatingly divine! . . .

So, bubbling over with delight,
He dubbed the compound: "STRANGEST NIGHT."



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ABRASIVENESS OF DENTIFRICE INGREDIENTS

A study was made of the extent of abrasion on the enamel, dentin and cemento-enamel junction of freshly extracted noncarious teeth from the action of the abrasive agents most commonly employed in dentifrice preparations. Water only was used as the vehicle, as such ingredients as glycerin and soap may possibly mask the abrasive effect.

The loss of enamel after 10,000 revolutions ranged between 0.011 and 0.032 mm., representing not more than about 1 per cent. of the average thickness of the enamel. A specimen of technical tricalcium phosphate caused a loss of 0.420 mm.; i. e., a loss of from 10 to 20 per cent. of the average thickness of the enamel. It is concluded that the abrasives investigated, if in pure form, cause no appreciable injury to noncarious enamel. The presence of highly abrasive impurities in these abrasives may, however, cause marked wearing away even of the enamel.

The loss of dentin after 5,000 revolutions ranged between 0.073 and 0.831 mm. (mean, 0.350 mm.).

The loss of surface at the cemento-enamel junction after 5,000 revolutions ranged between 0.053 and 0.646 mm. (mean, approximately 0.350 mm.).

The extent of the abrasion occurring at the dentin and cemento-enamel junction is sufficient to indicate that the prolonged use of any of the substances studied may appreciably wear away either of these structures if they are exposed.

Using precipitated calcium carbonate as the standard of abrasive action on all of the three structures studied, it was found that, of the preparations tested, tricalcium phosphate, C.P. (91 per cent), tricalcium phosphate (brand), A.D.R. (38 per cent) and dicalcium phosphate (brand), A.D.R. (76 per cent.) were less abrasive than precipitated calcium carbonate; whereas prepared chalk (216 per cent), magnesium carbonate (148 per cent), magnesium oxide (121 per cent), dicalcium phosphate, C.P. (134 per cent.) and tricalcium phosphate, U.S.P. (229 per cent) were more abrasive. A specimen of technical tricalcium phosphate containing harsh abrasive impurities was 1,143 per cent. as abrasive as precipitated calcium carbonate.

The comparison of the abrasion occurring on the actual tooth structures with the loss in weight of an antimony block shows that the tendency of the metal surface to "flow" rather than abrade causes all but the most abrasive agents to appear less abrasive than they actually are on the tooth structures. This flow factor was greatest with the least abrasive agent, the loss in weight of the mteal block being only one fourth of what might be expected on the basis of the comparative

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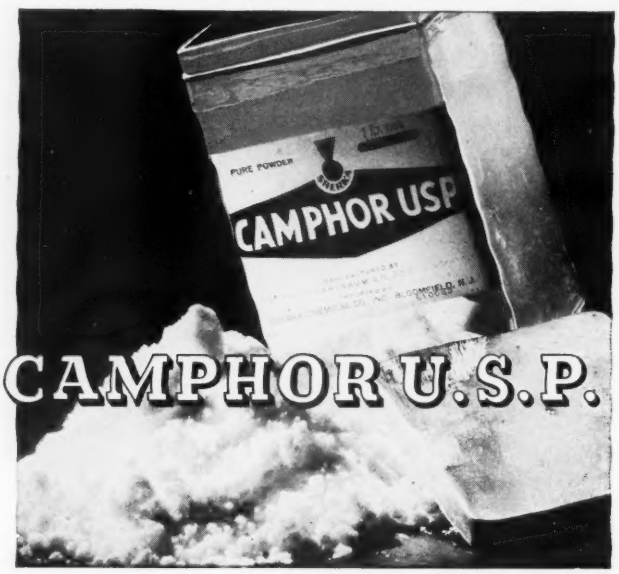

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wear on the tooth structures. It is concluded, therefore, that tests of the abrasive properties of dentifrice abrasives, if made on antimony or other metal blocks, do not give a true measure of the comparative abrasive action of these abrasives on tooth structures. *H. N. Wright und E. L. Fenske, J. Am. Dent. Assoc.*

SODIUM ALGINATE

Mucilages made from sodium alginate are transparent, waterwhite, and entirely free from odor. The material itself is extremely economical in use, as by the addition of the correct proportion of calcium in the form of calcium citrate as described and shown in the formulas, mucilages of very low concentration may be prepared having any desired viscosity and consistency. This property enables it to be used in any given concentration to form either thick, true solutions, semi-gel mucilages similar to those made with tragacanth or karaya, or firm transparent jellies.

Alginate solutions are extremely sensitive to electrolytes, alcohol, and similar reagents, and can thus be made to form interesting gels, into which glycerin, sugar, and other ingredients can be incorporated. It is therefore recommended by its sponsors for use in cosmetic preparations having an aqueous or glycerin mucilage as a base.

Sodium alginate dissolves in water to produce extremely viscous solutions. It is insoluble in alcohol and the usual organic solvents. When calcium ions are added, the solution becomes still thicker until, when the calcium ion concentration is sufficient, the solution gels. It is convenient to add calcium to the solution in the form of calcium citrate powder; calcium citrate is sparingly soluble in water, and so can be well distributed throughout the solution before it dissolves appreciably and exerts its thickening effect.

The thickening effect of calcium ions on alginate solutions depends on the fact that calcium ions precipitate calcium alginate as a jelly from solutions of soluble alginates. All metallic ions, other than those of the alkalis, magnesium and ammonium, behave similarly. Sufficiently strong acids precipitate alginic acid itself. The thickening effect of calcium on solutions increases as the pH of the solution is lowered. This can be observed by adding gradually increasing quantities of citric acid to a solution of approximately 90 per cent. sodium alginate and 10 per cent. calcium citrate.

As with many other colloids, borax modifies the thickening properties. In small proportions, up to 1 per cent., it increases the amount of thickening obtained, thereafter diminishing it.

Excess of water-miscible alcohols precipitates solutions, so must be used with care. This is a property which can be used with great advantage, however, in the preparation of jellies of, say, glycerin or the glycols, as these preparations are quite stable.

In the preparation of all formulas care must be taken to avoid an excess of incompatible ingredients. In the majority of cases such ingredients are little used in the manufacture of cosmetics, while in certain cases a suitable alternative can be found.

In all formulas in which sodium alginate is used, a suitable preservative should be added in a concentration depending upon the time of storage required.

Electrolytes such as borax, sodium benzoate, etc., preserve alginate solutions, but their marked thickening effect appreciably affects the consistency of cosmetic preparations and hence limits their applicability. Of the odorless water-soluble preservatives available which do not modify the thickening effect, the sodium salt of the propyl ester of p-hydroxy-benzoic acid is most highly recommended. It should be used in concentrations of from 0.1 to 0.25 per cent. in all liquid preparations. Where, however, sufficient perfume is added to mask a slight odour, other preservatives such as formaldehyde may be used with success.

Glycerin Hand Jelly

Dissolve from 0.75 to 1.5 parts of sodium alginate in 35 parts of water (preferably distilled), and to this solution add 49 parts of glycerin.

Slurry from 0.1 to 0.2 parts of calcium citrate in 13 parts of water (preferably distilled) and stir this into the alginate solution.

The perfume required should be dissolved in 5 times its volume of alcohol and added to either of the above solutions. The necessary water-soluble preservative may be dissolved in the alginate solution.

Hair Setting Lotion

Dissolve 2 parts of sodium alginate in 100 parts of water (preferably distilled) To this solution add 1 part of perfume dissolved in 5 parts of ethylene glycol or alcohol.

Slurry 0.15 parts of calcium citrate in 90 parts of water (preferably distilled) and add this to the alginate solution. Allow to stand from one to two hours, when thickening is complete. The preservative may be added as in the formula for greaseless hair creams, given below.

The proportion of sodium alginate and calcium citrate recommended may be varied to obtain the exact consistency desired. If the lotion is required to be transparent, the quantity of perfume should be kept as low as possible.

Greaseless Hair Cream

Dissolve 2.5 parts of sodium alginate in 100 parts of water (preferably distilled) To this solution add 1 part of perfume, dissolved in 5 parts of ethylene glycol or alcohol.

Slurry 0.2 parts of calcium citrate in 90 parts of water (preferably distilled). Mix this slurry with the alginate solution, and let stand for about one to two hours, when thickening is complete.

After Shaving Lotion

Dissolve 1.2 parts of sodium alginate in 80 parts of water (preferably distilled).

Slurry 0.14 parts of calcium citrate and 10 parts of witch-hazel extract in 20 parts of water (preferably distilled). Mix this slurry with the alginate solution, and add to it a solution of 0.05 parts of menthol and 0.2 parts of perfume, dissolved together in 10 parts of ethylene glycol. The preservatives should be dissolved in the water with which the alginate solution is prepared.

If desired, this lotion may be thickened to a jelly by using a higher proportion of calcium citrate, and replacing half of the water by glycerin, as in the formula for a hand jelly.

Tooth Paste

Grind together 48 parts powder base, 0.4 parts sodium alginate, 10 parts sugar, 0.2 parts preservative (water-soluble). Work into this powder base 20 parts of glycerin and 15 parts of water until the alginate is dissolved and the paste is homogeneous.

Slurry 0.05 parts of calcium citrate in 5 parts of water, and mix well into paste. Finally work in 4 parts of dental soap powder. Flavor as desired.

PERMANENT WAVING SOLUTION

A lotion for permanent waving consists of 15 parts of lecithin, 5 parts of ammonium carbonate, 185 parts of sodium monosulfide, 780 parts of alcohol, and 15 parts of bergamot oil. The mixture may be made with water instead of alcohol. For use, the lock of hair is moistened with a tampon, saturated with this liquid, and the lock is wound on a hair curler. *S. Itsieff, French Pat. 810,389.*

HAIR RINSE

A substantially neutral salt of an organic hydroxy carboxylic acid containing 4 to 6 carbon atoms, such as ammonium tartrate, citrate, etc., which is adapted to become fixed on the hair when applied, is used in solution as a hair rinse. *J. C. Brown, U. S. Pat. 2,084,127, assigned to E. Frederics, Inc.*

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ADVANCING THERAPY

MAGNESIUM TRISILICATE

Further investigations into the properties of magnesium trisilicates are reported in the "British Medical Journal" by Dr. N. Mutch. Since this worker published an account of his original findings, may commercial varieties of so-called magnesium trisilicates have been marketed, several of which have failed to conform to the composition of the theoretical formula.

An analysis, including antacid values, adsorption, loss on ignition, magnesium-silica ratio of the different brands of magnesium trisilicate has been made and recorded. Mutch has found that the variety of true artificial sepiolite No. 1, used throughout his work, is capable of maintaining complete control of gastric acidity, samples of gastric contents tested having proved to be entirely free from hydrochloric acid for several hours as a result of regular doses of it. Following this initial immediate neutralizing action of the trisilicate, the secondary effect persists for more than an hour. As the substance is non-poisonous, an adequate dose can be given to allow for any loss through the pylorus.

An important point about magnesium trisilicate is that it does not produce alkalosis. This condition is caused by absorption of soluble alkali when given in excess of the amount required to neutralize the gastric acidity at that time. Another cause is the loss of acid neutralized by an antacid unless the basic substance which removes the acid has been metabolized, or unless it is reprecipitated in an insoluble form in the small intestine.

When magnesium trisilicate is given and the gastric acid is neutralized, magnesium chloride is formed. Magnesium is reprecipitated as an insoluble hydroxide in alkaline medium, and is thus prevented from upsetting the internal acid-alkali balance. Being insoluble and neutral, any untilized excess of trisilicate does not increase the alkali reserves of the body. These deductions have recently been confirmed by tests on blood and urine.

In certain individuals magnesium trisilicate produces a laxative action. This is due to an osmotic action of the magnesium chloride acting as a saline aperient in the gut. Apart from personal susceptibility, there are several factors which are concerned with the varying laxative effect: the amount of magnesium chloride formed —dependent of course on the dose of trisilicate given and the amount of acid present—and its rate of flow through the pylorus; the proportion of magnesium chloride remaining in solution, which depends on the extent to which much magnesium hydroxide and carbonate are precipitated by alkaline pancreatic secretion; and the amount of soluble magnesium salts formed by the action of any acidity on the magnesium hydroxide and carbonate in the lower gut, which would produce further osmotic effect. It is found that the laxative effect of the trisilicate can be overcome by the concurrent administration of some adsorbent such as charcoal or kaolin, or constipating antacid such as chalk.

VITAMIN A DEFICIENCY

Vitamin A deficiency is common in adults and varies from a photometrically detectable phase, to the complete clinical syndrome. In a group of medical students, 35 per cent. had low photometer reading, and 12 per cent. had clinical manifestations of the deficiency. The chief manifestation, in the order of their frequency, were night blindness, photophobia, dry skin, dry conjunctivae, inflammation of the edge of the eyelids, and follicular hyperkeratosis. The factors producing the deficiency were analyzed and showed that the skipping of meals and poor choice of foods were chiefly responsible. After dietary analyses it was concluded that 4,000 international units of vitamin A daily represent the minimal requirements for a healthy adult. Infections were more numerous and severe among the deficient students. Further evidence that it is dangerous for the partially night blind to drive an automobile at night was obtained. Photometric evidence of night blindness appeared in six days and subjective evidence in five weeks after the production of a pure vitamin A deficiency in an experimental subject. Night blindness preceded gross epithelial changes. *H. Jeghers, J. Am. Med. Assoc.*

SHAMPOO MIXTURE

A washing material for use as a shampoo consists of at least 2 parts of a water-soluble soap and one part of a mixture of a lime soap dispersing agent and alkali metaphosphate. Additional ingredients may include polysaccharides such as starch, drug extracts such as camomile or henna extract, hormones, vitamins, etc. *H. Schwarzkopf Kom. ges. Brit. Pat. 465,546.*

TABLET COATING

A coating for pills or tablets, insoluble in the stomach but disintegrating in the intestines, may be obtained by applying a thick layer of plasticized shellac. The solution contains shellac 20 g., anhydrous lanolin 5 g., alcohol 75 g. The coating is applied by the addition of small successive quantities of this liquid in a coating pan. When a uniform coating is first obtained, the tablets are dusted with powdered gum acacia. After each additional two coats, powdered talc is applied. When the weight of tablets has increased by 37 per cent., two or three coats of a 20 per cent. solution of shellac in alcohol are added, and the tablets are dried. In the case of pills a total of eight to ten coats is sufficient. Tablets coated in this way do not break up after four hours immersion in artificial gastric juice, but disintegrate in one and a half hours in a solution corresponding to the contents of the intestine. *S. Mozsonyi, Ber. u. pharm. Ges.*

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DERMATITIS AND UNSATURATES

Ginsberg and Bernstein made repeated studies of the blood lipids on fifty-six subjects with chronic dermatitis to determine the effect of ingestion of oils (linseed, corn or cod liver) containing unsaturated fatty acids. Their observations give them no reason to believe that there was any characteristic abnormality of the blood lipids in the patients whom they treated or that any specific benefit arises from feeding such patients oils containing highly unsaturated fatty acids. *Arch. Derm. & Syphil.*

GOLD SALTS FOR ARTHRITIS

Hartfall and his colleagues have employed chrysotherapy in the treatment of 900 cases of arthritis, 750 of which were of rheumatoid arthritis. They maintain that preparations of gold constitute the best single form of treatment in rheumatoid arthritis. Certain individuals undoubtedly show an idiosyncrasy to gold salts, developing multiple reactions after small doses, and these patients are presumably unsuitable for treatment. In others there are no doubt several factors; dosage is of some importance. The maximal single dose should not be more than 0.1 Gm. and a course of injections should not consist of more than 1 Gm. At the same time larger doses produce even more striking results. There are a few real contraindications to treatment with gold salts; any history of previous purpura or agranulocytosis appears to be an absolute contraindication, as is gross renal or hepatic disease. Rheumatoid arthritis, if seen in its early stages, can be cured by gold salts, and there are few cases that cannot be improved to some extent. *Lancet.*

GOLD SALTS AND TUBERCULOSIS

Courmont and his associates report about 117 adults from the same clinical department. Only one type of gold salt was used and the preparation was administered intravenously in doses of 0.1 Gm. Among thirty-four patients in whom the treatment was completed, the temperature was reduced in 56 per cent. of the cases, the weight was increased in 57 per cent.; the sputum was reduced in 50 per cent., the bacilli disappeared in 44 per cent., there was roentgenologic improvement in 25 per cent. and the mortality was 23 per cent. On the other hand, in the fifty-four patients who did not receive the gold therapy and in the twenty-nine in whom the treatment was not completed, the corresponding figures were extremely unfavorable and the mortality was twice as high as in the treated group. *Journ. de Med. Lyon.*

STABILIZATION OF VITAMIN C

Levorotatory adrenalin prevents the oxidation of ascorbic acid; the action is due to adrenalin and not to traces of other substances that may be present.

Racemic adrenalin prevents the decomposition of ascorbic acid, but is only half as effective as the levo variety. When equimolecular proportions of levo adrenalin and ascorbic acid are mixed, oxidation is retarded to the extent of 88 per cent. Racemic adrenalin in the same concentration is only 45 per cent. effective.

In the mixture, the vitamin C is more rapidly oxidized than the adrenalin, the latter being oxidized only when all of the vitamin has been destroyed. *M. Yamamoto, Hoppe-Seyler Z. Phys. Chem.*

DIABETES AND SYPHILIS

In the examination and treatment of 59 patients exhibiting sugar in the urine and in which syphilitic infection was not suspected, mercurial treatment was undertaken. Most of the cases responded surprisingly well to mercurial treatment and in nearly every case treatment was followed by cessation of glucosuria. In many cases improvement lasted long enough to permit claims of complete cure. According to the investigator, diabetes is caused by treponeme invasion of the pancreas, the liver, or the nervous system. *Ch. Pfeiffer, Le Phare Medical, Aug. 1937.*

ABSORPTION THROUGH THE SKIN OF TRIBROMOETHANOL

When a sufficient amount of a solution of tribromoethanol crystals in 95 per cent. ethyl alcohol is applied to the fur of white mice, the solution is rapidly absorbed and the animals are anesthetized in 15 to 30 minutes. Anesthesia lasted 2 to 3 hours, after which the animals recovered. *D. I. Macht, Nature.*

SOLUBLE THEOPHYLLINE COMPOUND

An isopropanolamine compound of theophylline is prepared by adding 198 grams of theophylline to 600 cc. of water and 75 grams of isopropanolamine. Upon stirring and gentle heating a clear solution was obtained which was diluted to 1000 cc. The solution so prepared contained 18 per cent. of theophylline alkaloid. Animal experiments have shown the compound to be of low toxicity, with the primary therapeutic action of theophylline. Clinical tests are now in progress. *F. R. Greenbaum, Am. J. Pharm.*

COSMETIC CREAM

An emulsion having a continuous aqueous phase with water as the main constituent contains as its principal emulsifying agent a neutral salt of a sulfonated higher fatty alcohol such as the sodium salt of the reaction product of sulfuric acid and oleyl alcohol, and an ester of a lower polyhydric aliphatic alcohol and a higher fatty acid such as the monoglyceride of stearic acid having at least one free hydroxyl group, which may be used in the emulsification of materials such as sperm oil, etc. *W. Schrauth, U. S. Pat. 2,086,479, assigned to Unichem.*

ANTISEPTIC SOLUTION

The formula for antiseptic solution N.F. VI needs revision. Materials are wasted and consequently the solution is not as effective as it should be for the quantity of materials used. Either the quantities of antiseptics or the character of the solvent must be changed to avoid this waste.

By replacing 25 per cent. of the water in N.F. VI antiseptic solution with propylene glycol, a solution is made that mixes well with water, requires no clarifying agent, and may be diluted with two parts of water to form a highly effective germicide. Propylene glycol seems to cause the formation of a more pleasant odor and taste in the product. The problem can also be solved very easily by increasing the alcohol to 70 parts by volume which results in a preparation that mixes clear with all proportions of water and is an effective germicide when mixed with two parts of water. Any mouth wash or gargle should be effective long after the recommended dilution has been exceeded in order to take care of the dilution which takes place during use. *W. C. Clark, J. Am. Pharm. Asso.*

SUN SCREEN PATENTS

In order to protect the skin from the effects of the sun and ultra-violet rays, it is preferable to use the solution of a very active product obtained by causing a substituted lactone of hydroxycinnamic acid to react on a tannate in such a way that the final product contains free tannate, the latter possessing the property of thickening the outer layer of the skin. Use is made of the following substituted pyrones: esculetin, umbelliferone, beta-umbelliferone acetic acid, beta-methylbelliferone acetic acid, herniarin, daphnetin, chrysatropic acid, beta-methylumbelliferone, umbelliferone-alpha-carboxylic acid, dimethylamino-beta-methylcoumarin, etc. The product can be prepared in solution in water, alcohol, ether, or glycerin. The solution containing one-tenth per cent. of pyrone possesses, for a layer 1 mm. thick, a constant absorption of 70 to 75 per cent. Methylumbelliferone acetic acid 8 parts, sodium tannate, 4 parts, 50% alcohol, 88 parts. Umbelliferone acetic acid 10 parts, sodium tannate 3 parts, glycerin 10 parts, water 72 parts. *F. Ellinger, Swiss Pat. 187,246.*

An anti-sunburn preparation consists of the salicylic acid ester of a polyalcohol, such as glyceryl monosalicylate. R. A. Hall, ass. Colgate-Palmolive-Peet, *U. S. Pat. 2,081,117.*

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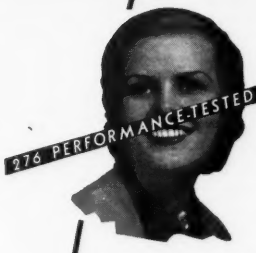

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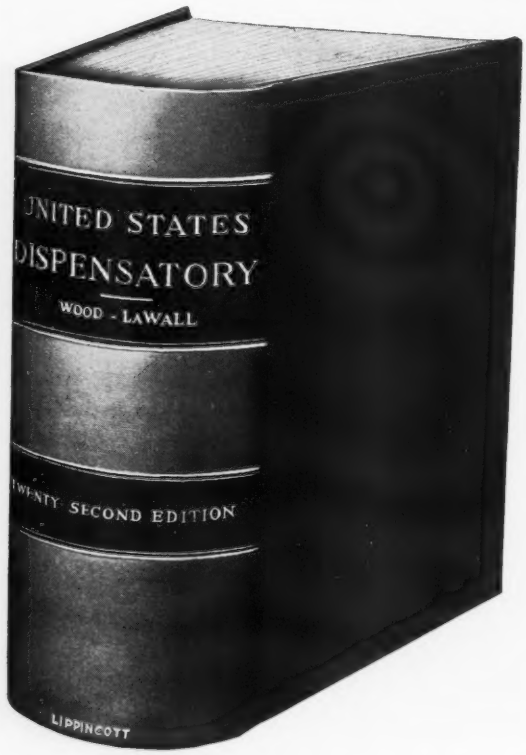

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PRESERVING WAVE-SET. We market a finger wave powder consisting of the best and whitest grade of gum karaya containing a preservative with enough of an alcoholic solution of a dye and perfume to prevent dusting in the mechanical mixer. This is sold as a dry powder. Occasionally the finished lotion made with this powder loses its viscosity and becomes rancid. Can you suggest a preservative that would overcome our trouble. Richmond.

Paraformaldehyde and the methyl ester of para hydroxybenzoic acid are among the best of the preservatives for gums in solution. However, the preservative must be present to the extent of about one-tenth of one per cent. of the finished solution, corresponding to a much higher percentage of the dry powder. You are probably using too little preservative. As an example, in making a one per cent. gum solution, it will be necessary to mix one part of preservative with nine parts of the dry gum powder. It might be better for you to sell preservative separate from the powder, with directions for adding it to the finished lotion.

STABILIZING LOTION. I am working on a lotion which is essentially one composed of stearic acid, triethanolamine, carbitol, etc. I have been able to incorporate mineral oil in it without destroying the lustre that is developed by using an excess of stearic acid over and above that required for complete combination with the triethanolamine. However, on standing, the oil droplets coalesce and float an oil ring at the top of the bottle.

Is there anything I can use to promote the more complete and thorough emulsification of the oil? I am not using an homogenizer or colloid mill, having been entirely successful in making the product by strictly chemical means—with the exception of not completely emulsifying the oil. I thought there might be some sort of coupling agent that would fill the bill. I am not using any gums of any sort to hold this emulsion together and as a matter of fact, if I leave the oil out of the formula, my product is stable indefinitely. If you can't tell me of such a material, can you tell me of some other easily emulsifiable emollient that I may use in place of the oil? Granted diethyleneglycol ethyl ether is supposed to be good for the purpose and so is glycerine, but I am looking for some other bland emollient that will do the work and will counteract the drying effect of the usual vanishing cream type of emulsion of which mine is an example. I would also like to know of a red color I could use for this product. It should be light fast, stable in the presence of this excess stearic acid (without being precipitated as would amaranth) and stable in solutions with a pH of from say 5 to 9. Please give me either the name, the color index number or the trade name under which it may be sold by a supplier of that sort of material. I might add that if you need more information about the product I am working on, I will supply it providing the information is kept confidential. I believe it to be an original product or at least an original line of development on this type of product. It is a lotion carrying a great excess of stearic acid and is capable of infinite dilution without separation—and I don't use any gums of any sort to promote stability. Pittsburgh.

All formulas sent to this department, are kept confidential, whether or not they are working well, since most individuals seem to believe that their products are quite unique. A mixture of triethanolamine excess stearic acid, glycerine and water, very seldom offers any difficulty as regards separation, even in the absence of gums. For approximate neutrality, the amount of stearic acid should be about double the amount of triethanolamine; an excess of stearic acid permits development of lustre and also tends to assist in emulsifying other ingredients. However, we have found that a combination of a small excess of stearic acid, and a small amount of cetyl alcohol tends to stabilize an emulsion containing oil. Since mineral oil is seldom if ever, classified as an emollient, it is better to use lanolin for the purpose. There should be no trouble in making a stable emulsion containing lanolin. Sorbitol is being used increasingly as an emollient in place of glycerine. The color you desire can probably be obtained from your regular supplier if you will tell him your exact requirements.

GRAINY CREAM: We list below a formula for a cleansing cream which we have been manufacturing and which has been giving us trouble. A precipitate forms, giving the cream a grainy appearance. We would appreciate any suggestions you might give to correct this fault. We have the same difficulty with a tissue cream of a similar formula. Dallas.

Your cream seems to be definitely unbalanced, with too little water to give a correct oil-in-water cream. We suggest that you add another quart or two of water to your batch to throw the cream in the proper direction. If the cream is then too soft, increase either the paraffin or the beeswax until the proper consistency is again attained. The presence of both cholesterin and lecithin in the cream, although recommended on biological grounds, may also tend to affect the balance adversely, and these compounds may well be eliminated. Finally, the graininess may be due to improper processing and temperature control. Be sure that the water added to the melted waxes and oil is either at the same temperature or slightly hotter than the melted wax. Stirring should be continued until the mixture is absolutely homogeneous.

QUESTIONS

SILICA GEL: Have you any information regarding the approximate demand for silica gel in the manufacture of pharmaceuticals and toiletries? New York.

Although it is not possible to hazard any guess as to the amount of silica gel that could be used in this industry, there is a definite field for the product. Probably very little is actually in use at the present time, but very finely powdered silica gel could be a very useful addition to absorbent powders of all kinds, and in facial mask mixtures.

HAIR RINSE TABLETS: For several years we have been manufacturing a powdered colored hair rinse of a typical formula. We have recently had a great many calls for the same product in tablet form. So far we have not had a great deal of success in compressing the ingredients to form a satisfactory tablet. Can you suggest some binder that could be used successfully in this connection. Minneapolis.

At best, tablet making is never the easy process it seems to be at first glance. Probably a small amount of a dilute gum solution will give you the results you desire. Mix the solution with the powder, until the whole mixture is very slightly moist and then compress into the desired shape. A lubricant such as triacetin will be useful in preventing the tablets from adhering to the mold.

CLEANSING CREAM: We have often observed references to cleansing creams made with triethanolamine, but we have not been able to find a cream on the market that was designed to be removed with water. Since we have considered marketing such a cream (we have put together a number of experimental batches), we would like to know if a cream of this type is being successfully marketed. Does this type of cream offer marketing problems different from the problems of the standard cleansing cream? San Francisco.

From time to time, considerable fuss has been made about the possibilities of cleansing creams that could be removed with water, to our knowledge, none has been successfully marketed. As a matter of fact, we believe that a woman, rather than go to the trouble of removing a cream from her face with water, would wash her face with soap and water in the first place. Furthermore, as a general rule, the water-soluble cream contains less oil than the regular type and is likely to be less effective as a cleanser. It seems, therefore, that a cream to be removed with water would be virtually a new product and might encounter all the usual pioneering troubles.

CREAM DEODORANT: Will you please supply me with a formula for a cream deodorant which is not irritating and will not "burn" the fabrics? St. Paul.

In a recent tested formula article on deodorants, a formula such as you have in mind was given, the active ingredient being hexamethylene tetramine. This compound is stable in neutral or alkaline media (vanishing cream formulas) but reacts with acid perspiration. In a few cases it may cause slight irritation, but will not affect fabrics.

Glyceryl monostearate	12.0
Hexamethylene tetramine	3.5
Glycerine	4.5
Water	80.0

ACID PEARLY CREAM: The newest tendency in making contraceptive products seems to be toward the use of vanishing creams instead of gum mixtures as the vehicle for the spermicide. These products are definitely acid in reaction, are easily dispersed in water, and have a very fine pearly luster. We have tried to make similar products using some of the proprietary acid emulsifiers available and have been able to make good creams containing acid which were, however, without pearly luster. Any suggestions you can make in solving this problem will be appreciated. Brooklyn.

Pearliness in vanishing creams seems to be dependent upon the presence of stearic acid, which slowly crystallizes out in fine leaflets which give the pearly effect by the reflection of light. This pearliness is easily suppressed by the addition of small amounts of oil or oily substances and is not exhibited by creams made with glyceryl monostearate or other oil-in-water cream bases. In fact, pearliness is not considered desirable in face creams since some of the luster may be transferred to the skin surface. Stearic acid vanishing creams consist of excess stearic acid partially saponified with an alkaline substance. In the presence of acids such as lactic acid, the soap is destroyed and the emulsion breaks down. It is therefore unlikely that the product you have in mind can be made in the usual way unless the acid reaction you note is merely due to the presence of excess stearic acid, with spermicides, not an acid substance, as the active ingredients. A good line of experiment consists of the use of one of the acid-stable emulsifying agents like sodium lauryl sulfate along with stearic acid. For additional stability, a certain amount of gum karaya might be used.

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B	**Yeast Conc.** B_1 135 Int. units /gram G-(B_2) 75 Sherman units) gram.	6.50	7.00	7.30	7.50	7.75	8.00			
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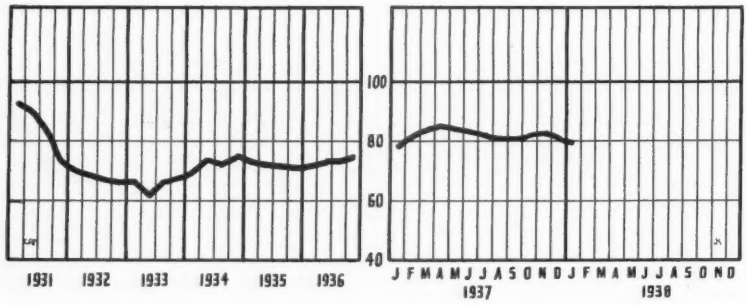
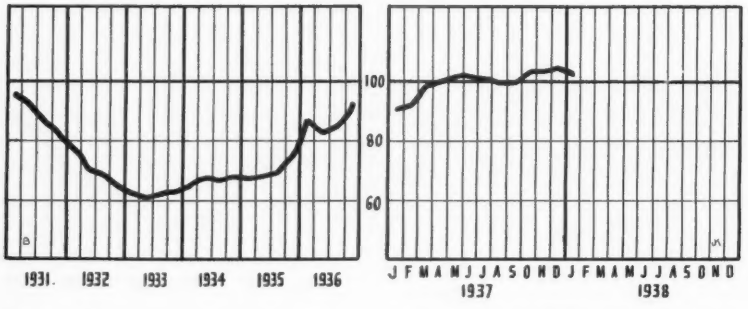
Anise oil 5c	Colocynth pulp 6c	Plantago seed, blond ½c
Balsam Peru 3c	Glycerin CP 4c	Psyllium seed, black 1c
Balsam Tolu 4c	Hydrangea root 1c	Rhubarb root HD 35c
Bois de Rose Cayenne 50c	Japan wax ½c	Sabadilla seed 1c
Buchu leaves 2c	Manna, large 3c	Senega root 1c
Carnauba wax 3c	Menthol 15c	Spartein sulfate 10c
Cassia oil 5c	Methyl heptenone 5c	Tartaric acid ½c
Celery oil 75c	Nutmeg oil 10c	Terpinyl acetate 10c
Chamomile Hungarian 1c	Peppermint oil, Nat. 5c	Vanilla beans, Bourbon 45c
Citral 40c	Redist. 5c	Mex. cuts. 25c

25 Cosmetic Raw Materials—Unweighted Price Index. 1926 = 100.



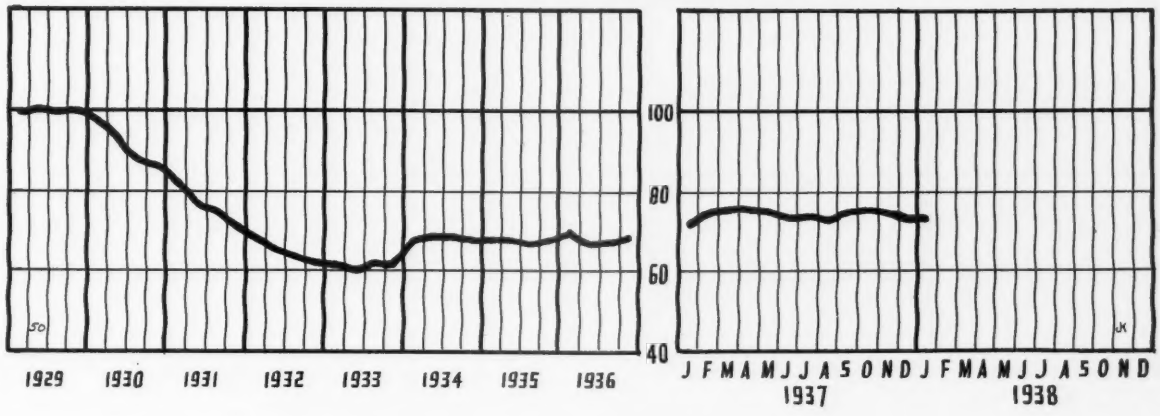
Cosmetic raw materials averaged lower prices, the index declining from 80.4 to 79.0 in January 1938. Balsam Peru declined from 85 to 82 cents, balsam tolu declined from 52 to 48 cents, glycerin dropped from 20 to 16 cents, Japan wax declined from 10¾ to 10¼ cents, menthol was fifteen cents lower at $3.15.

15 Botanicals—Weighted Price Index. 1926 = 100.



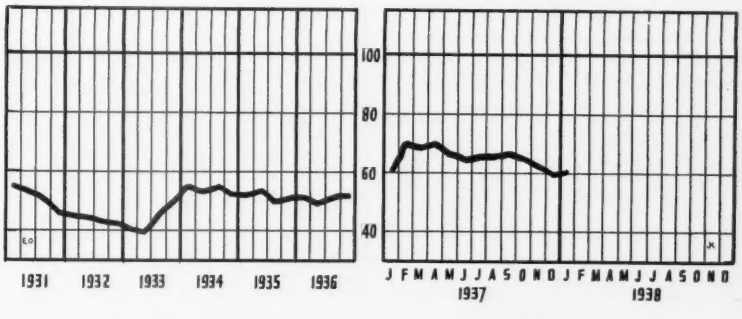
Botanicals prices averaged a decline, the January index being 102.3 compared with 104.4 in the preceding month. Agar declined from $1.10 to $1.05, balsam tolu declined four cents to 48 cents, buchu lost two cents to be quoted at 50 cents, rhubarb dropped from $1.05 to 70 cents. The statistical position of botanicals as a whole, however, was not encouraging to manufacturing consumers, the easier tendency being due entirely to small current demand.

50 Raw Materials—Weighted Price Index. 1926 = 100.



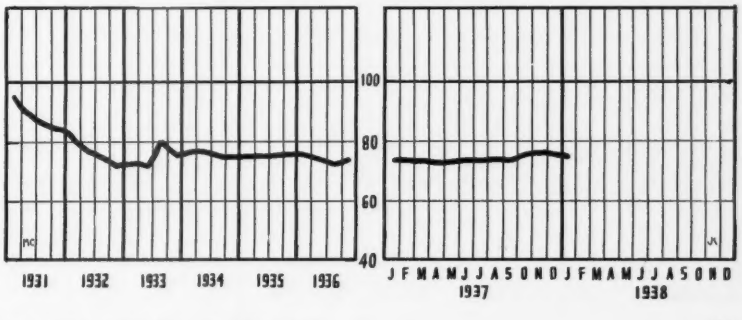
Changes in other indexes counterbalanced each other, so that the general index of fifty commodity prices remained unchanged at 73.5 for January 1938. The markets as a whole continued very quiet. There were no developments during the past month which would materially affect the price structure. It was generally reported, however, that because buying for consumption declined materially during the last quarter of 1937, manufacturer's inventories must of necessity be low. Replacement buying the first quarter of this would should have a decided stabilizing influence on prices for many raw materials.

15 Essential Oils—Weighted Price Index. 1926 = 100.



The essential oil index increased from 59.5 to 60.6. Anise oil declined from $1.30 to $1.25, bergamot was increased from $3.90 to $4.00, bois de rose jumped from $1.35 to $1.55, cassia was five cents lower at $1.20, clove oil also declined five cents a pound to $1.05, lemon oil rose from $2.35 to $2.60, peppermint oil declined from $2.20 to $2.15.

15 Medicinal Chemicals—Weighted Price Index. 1926 = 100.



The medicinal chemicals index declined from 75.1 in December 1937 to 74.9 in January 1938. Menthol declined from $3.30 to $3.15 and mercury metal was $3.00 lower at $81.00 a flask. It was the general opinion that natural menthol on spot would reach a level nearer to the replacement position. The small current demand for mercury was responsible for the weakness in that item.

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REVIEW

Many interesting developments in the world-wide markets that supply raw materials for the manufacture of drugs and cosmetics make it particularly interesting at this time to look back at what transpired in the months gone by.

The undeclared war between China and Japan, and the continuance of the war in Spain, undoubtedly are of paramount interest because of the importance of these countries as primary markets.

Japan has a natural monopoly on brown camphor oil, white camphor oil, camphor sassafrassy, artificial sassafras oil and safrol. These items are not produced anywhere else in the world. Other items on which Japan exercises a practical monopoly are natural menthol and natural camphor, agar agar, etc. On most of these items Japan has continued to make prompt deliveries, but on practically all of them a very firm market prevails there. Although unlikely, there is still the possibility that, with the growing resentment against the attitude of Japan, some form of sanctions will be instituted which would effectively cut off supplies of these items.

Some of the materials mentioned above are replaceable by synthetics, namely menthol and camphor. If, however, the annual requirements of menthol in this country and elsewhere were dependent on synthetic production, it is most likely that the demand for citronella oil—the parent material—would advance to an extent that would make necessary an increase in the price of synthetic menthol.

China also produces exclusively such materials as anise oil, cassia oil, ephedria vulgaris, rhubarb, etc. Unfortunately there are no substitutes for these items with the possible exception of ephedrine, which has been synthesized in Germany. The cost of synthetic ephedrine, however, is said to be five times that of ephedrine made from ma huang at normal prices. Some recent arrivals of ma huang were reported, but considerable doubt exists as to whether this year's crop was harvested at all and nothing could be learned regarding the possibility of future shipments.

United States imports of ephedria vulgaris were recorded at 68,777 pounds valued at $3,405 in October—35,773 pounds coming from China and the rest from Japan—bringing the total for the first ten months of the year to 738,250 pounds valued at $19,350. Imports of this product amounted to 1,000,250 pounds during the whole of last year and 1,948,000 in 1935.

A cable dated November 3, 1937 from the American Consulate General at Tientsin stated that the last shipment of ephedra vulgaris to leave that port consisted of 90,000 pounds and was dispatched in July. The same cable stated that declared exports of ephedra vulgaris at the American Consulate General during the first 9 months of the year aggregated 963,095 pounds valued at $21,961. From the statement made above it would appear that all of this amount was declared for export prior to the first of August.

In view of this situation ephedrine and ephedrine salts continued at the high levels reached during the last quarter of 1937. It is needless to say that all raw materials of Chinese origin showed considerable strength during the latter part of last year.

Difficulty in obtaining orderly shipments from Spain, and uncertainty regarding the future position of such items as olive oil, spike lavender, thyme, rosemary, orange, sweet almond oil, origanum, pennyroyal, geranium, basil, mandarin ergot, licorice, uva ursi, saffron, paprika, mercury and cork, continued to characterize the market. Prices in most cases continued above normal levels and in view of the havoc in Spain it is surprising that that country continued to be a primary market factor.

A further trend toward monopoly in raw materials was one of the interesting developments of 1937. The Italian Government made many previous attempts to fix the export prices of bergamot oil but only during the past year did they bring to fruition—through the institution of drastic monetary and confiscatory policies—a monopoly which has succeeded since its inception in advancing the price of bergamot oil from $1.60 per pound to a current spot price of $4.00.

Some factors in bergamot, and many American consumers, are of the opinion that the monopolistic control has been carried too far and that it will eventually react to the detriment of the producers. There are very good so-called synthetic bergamot oils which are very close to the natural oil, but at the same time do not contain a trace of bergamot. The attitude that the American market will pay any price for what it wants is erroneous. Once the market for the natural product is lost it will never be regained.

The stabilization of Persian currency during the past year resulted in an increase in the price of gum tragacanth of from 20 per cent. to 22 per cent. An exporters decree was also promulgated and considerably strengthened during the past twelve months. Gum tragacanth on the spot market sold as high as $3.00 for the best grade and is still reflecting, at $2.75 per pound, the conditions at the source.

Mexico also stepped in line with a marketing entity which has for its object the control of production and sale of candelilla wax in Mexico, as well as in foreign markets. A Presidential decree of September 29, 1937, provided an export duty of 0.40 pesos per gross kilo on waxes of vegetable origin. The new marketing organization is known as the Union de Credito de Productores de Cera de Candelilla, S. A. The effect of the decree is to concentrate all export sales in the hands of the Union, inasmuch as the independent exporters or producers could not hope to compete with the Union price. Production of the wax is concentrated in the states of Coahuila, Chihuahua, Nuevo Leon, and Durango, and it is stated that about 80 per cent. of the output is now controlled by the Union. Estimates place the total annual production of wax from Mexico at about 2,400 metric tons.

Of particular interest is the continued efforts of Bulgaria to decrease the production of rose oil. Rather large carryover stocks have for many years been an embarrassment. The government has endeavored to encourage other farm crops that grow well in the Valley of Roses. Pyrethrum has been grown successfully and the acreage during 1937 was materially increased. It was also reported that peppermint is being grown successfully in Bulgaria and that production during 1937 amounted to 80,000 pounds. Exports of peppermint oil from Bulgaria during the first 10 months of 1937 aggregated 25,760 kilograms against 7,194 kilograms during the same months of 1936. Special attention has been given to the development of this product and mint is becoming one of the country's staple crops.

As a market trend it might be important to recall here that the United States has always been the largest producer of peppermint oil used for flavoring purposes. About 60 per cent. of American production has always been shipped abroad. As the Bulgarian production is already equal to 20 per cent. of the annual amount of oil exported by the United States a continuance of the policy of promoting the growth of peppermint in Bulgaria may eventually seriously affect the market for American oil.

Other acreage devoted to aromatic plants in Bulgaria, it is said, resulted in a 200 per cent. increase in the output of essential oils during 1937. As the production of rose oil is still above normal, it is expected that this policy will be continued in 1938 with the likelihood that ultimately the government will be successful in stabilizing production of rose oil at levels which will give a satisfactory economic return to producers.

The hugh armaments race in Europe withdrew many men from productive industries. The effect of this employment trend was particularly noticed in Central Europe from whence comes many botanical drugs. The much higher prices for glycerin can be directly traced to the exceptional demand both here and abroad—practically all countries showing a desire to build reserves for possible eventualities.

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The spot market for Japanese menthol is quiet. This has been characteristic for several months. Prices again receded and are now officially quoted at from $3.15 to $3.25 per pound. The market here can be best summarized by the fact that over the past six weeks the decline amounted to 35c per pound. It is generally expected that next month will see a spot market at $3.10 a pound as prices at present levels are already being shaded.

The Japanese market during the last six weeks was quite firm. This is a reflection of September/October shipment business but it is said that a good portion of these stocks are coming on the market unsold. With an increase in spot stocks and the absence of interest on the part of buyers for consumption, it is generally expected that the market here will move lower and nearer the present replacement position.

It was said that the synthetic material offered stiff competition to the natural Japanese article.

VANILLA BEANS

Buyers of vanilla beans continued to withold placing any sizable business. The market on spot reflected this delayed purchasing. Bourbon beans were lower at a range of from $3.15 to $3.75 per pound. Mexican cuts also declined to a range of from $3.75 to $4.00. Mexican whole beans were without change at from $4.25 to $4.75 per pound.

It was reported that the paper position, particularly of the Bourbon varieties, by no means reflects the present spot position. In fact the 1938-39 crop of Madagascar beans will not be large. The situation was aptly described by the statement that the statistical position of Madagascar beans is better than the state of buyer's minds. If business next year is only fair, supplies of good quality vanilla should be consumed easily. If business develops along normal lines there is not likely to be enough.

New plantings of Bourbon beans were begun last year. As it takes from three to four years for plants to produce a marketable product, it is generally expected that the supplies of Bourbon beans for the next two years will not be large.

Bourbon prices today are said to be reasonable in view of present supply conditions, and it would not take an unusual demand to raise the market in Marseille. It is the general opinion that buyers would be wise to place orders for at least part of their requirements at present levels.

PEPPERMINT OIL

The spot market for this well known American oil continued weak. Prices were lowered again with the natural oil now selling from $2.15 to $2.20 per pound and the redistilled material at from $2.40 to $2.70. These are generally considered attractive levels from the manufacturing consumers point of view. Dullness in demand has been a current complaint and has resulted in a substantial competition arising in local quarters.

A crop report issued by the United States Department of Agriculture and dated December 1, 1937 indicates an annual acreage planted to peppermint in the states of Indiana, Michigan, Ohio, Oregon and Washington aggregating 32,900 in 1937, 36,680 in 1936 with a four year average (1929-32) of 45,620. The production from this acreage amounted to 879,000 pounds in 1937, 957,000 pounds in 1936 with a four year average (1929-32) of 820,000 pounds. These figures include some spearmint.

CASCARA SAGRADA

It is predicted by Dr. F. J. Goodrich, Professor of Pharmacology, University of Washington, Seattle, that the denuded timber lands of the State of Washington will be utilized for the cultivation of cascara trees. The production of cascara bark is an important industry of the Pacific North-West, inasmuch as the trees are native only to Washington and Oregon and British Columbia. Dr. Goodrich said, unless a cultivated crop is assured, or there is an intensive program of reforestration or conservation, the trees will become extinct. Stripping the bark used for medicinal purposes throughout the world kills the trees, and new growth has not been sufficient to offset an increased demand, notwithstanding the high prices for the product. As a result of his experiments on University land and elsewhere, in which he used young trees, some taken from the woods, others grown from seed, and experiments with various types of fertilizer, Dr. Goodrich said that he was convinced "cascara farming" could be made a profitable business and at the same time utilize much land unfit for general farming purposes. A tree reaches sufficient maturity for peeling within about eight years, and by regular replanting a program of cropping a sustained yield could be maintained.

TARTARIC ACID

Manufacturers of tartaric acid announced a reduction of ½c per pound in this item, making the market 24¾c per pound in 250 lb. barrels and 25¼c per pound in 100 lb. kegs. No contracts are being offered at these prices.

EPHEDRINE

Although nothing like normal supplies of this material are available, it seems probable that the larger users would be taken care of. The future of supplies will depend greatly on how much raw material comes regularly from China, the primary market, or from Japan, from which country shipments have been received lately. Prices still continue high, alkaloid selling at $2.80, hydrochloride $2.50 and sulfate $2.50 per ounce respectively.

MERCURY

Prices for mercury metal were lowered again, this time making the spot price $81.00 to $82.00 per flask, the market being fairly easy thereat because of an almost total lack of interest on the part of manufacturing consumers. Trade has been quiet for a long time now, which leads some factors to believe that inventories must be such as to make early replacement buying a necessity. The lower prices for raw material have as yet brought out no new schedules for the mercurial salts.

SPEARMINT OIL

Local dealers reduced quotations to from $1.65 to $1.70 per pound. Conditions were such as to make the spot market one of distinct advantage to those users who had firm orders in hand.

LEMON OIL

The basic position appeared firm. Quotations for Italian oil for shipment somewhat higher again and the spot price improved to a basis of from $2.60 to $3.00. California oil held at $2.50 per pound and while competition was noted from independents the major source of supply felt that values were fully firm.

BOIS DE ROSE

Cayenne oil was weak and prominent factors declared they would like to get an order to fill at as low as $1.50 per pound. By contrast, Brazilian oil was strong. No offers from the source were received and local sellers declared they had a market for anything available. Spot prices were strong at from $1.55 to $1.60 per pound and it was difficult to do the inside.

MANNA

Large flake was down to from 37c to 38c per pound under competition. Small flashes were somewhat easier but lacked quotable change. Demand was very light.

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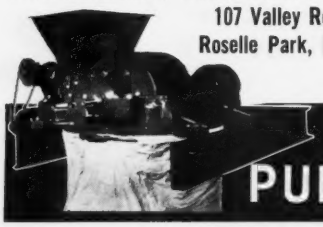

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